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Operators' Guide
Environmental Exposure Module

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The Environmental Exposure (EE) module consists of a list of options that allows users to access NOHIMS Industrial Hygiene (IH) Component database in order to perform these functions: provide a hazard profile of workplace, identify employees at risk by exposures to stressors in workplace, and perform various administrative planning and record keeping functions (related to IH surveys).

This manual describes how to use the EE options to enter or retrieve data.

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ENVIRONMENTAL EXPOSURE MODULE

1.0 GENERAL

1.1 Purpose of the Operators' Guide

This guide explains how to use the Environmental Exposure (EE) module of the Navy Medical Command's (NAVMED) Navy Occupational Health Information Management System (NOHIMS). It describes both how the Industrial Hygienist (IH) professional prepares data for entry into the module and how a user interacts with the module to enter or retrieve data.

The material in this guide is supported by the NOHIMS Primer. The Primer describes how to converse with NOHIMS. Each of the major types of activities performed in entering or retrieving data from the system is described in the Primer. The reader should be thoroughly familiar with the Primer before using this guide.

1.2 References

The following publications provide background information on the EE module:

o NOHIMS Environmental Exposure Module Functional Design Specifications

o Navy Occupational Safety and Health (NAVOSH) Program Manual, OPNAV Instruction 5100.23B, 31 August 1983

o NOHIMS Environmental Exposure Module Users' Manual, The MITRE Corporation, January 1987

o NOHIMS Primer, The MITRE Corporation, January 1987

1.3 Terms and Abbreviations

The following terms and abbreviations are used in this guide:

o ACGIH: American College of Governmental Industrial Hygienists.

o Boundary: An area isolated from surrounding areas in which a process is being conducted which produces high concentrations of a stressor.

o **Bulk Sampling**: The collection of specimens of suspect materials to be analyzed in order to determine the presence of a stressor.

o **Capture Velocity**: That velocity, at a distance from a hood, necessary to overcome dispersive forces and capture the contaminant.

o **Ceiling Limit**: A concentration which cannot be exceeded for any length of time.

o **dB(A)**: A sound level reading in decibels as measured on the A-weighted network of a sound level meter.

o **Decibel-dB**: A unit used to express sound pressure levels; specifically, 20 times the logarithm of the ratio of the measured sound pressure to a reference quantity, 20 micropascals (0.0002 microbars). In hearing testing, the unit used to express hearing threshold levels as referred to audiometric zero (re: ANSI S3.6, 1969 [NOTAL]).

o **Document Number**: The number used to uniquely identify records in the Materials Management System.

o **EE Module**: Environmental Exposure module of NOHIMS.

o **Engineering Controls**: Isolation, enclosure, exhaust ventilation, and dust collection used to meet exposure limits.

o **FileMan**: The VA File Manager software package.

o **HMC**: Hazardous Materials Control module of NOHIMS.

o **HMIS**: Hazardous Materials Information System.

o **IH**: Industrial Hygienist, Industrial Hygiene.

o **Inspection**: A comprehensive survey of all or part of a workplace to detect safety and health hazards as distinguished from routine, day-to-day evaluation and monitoring by local Occupational Safety and Health (OSH) personnel.

o **LAYGO**: Learn As You Go--the ability to add terms to a vocabulary while entering data into a related file.

o **MES**: Medical Examination Scheduling module of NOHIMS.

o **MSAL (Medical Surveillance Action Level)**: Medical examination qualification is required for any employee expected to enter into areas where airborne concentration may regularly exceed the specified airborne action level. The MSAL includes both a specified stressor

concentration (generally about one-half of the Permissible Exposure Limit (PEL) and a number of days or duration of exposure at or above the specified stressor concentration.

o MUMPS (Massachusetts General Hospital Utility Multi-Programming System): A programming language used to develop NOHIMS.

o NAVMED: Navy Medical Command.

o NIOSH: National Institute of Occupational Safety and Health.

o NOHIMS: National Institute of Occupational Safety and Health.

o Operation: A defined set of procedures, each with its own code, that is used to classify specific tasks performed by employees in the course of their work.

o OSH: Occupational Safety and Health.

o OSHA: Occupational Safety and Health Administration.

o NOHIMS: Occupational Safety and Health Record Keeping System.

o PEL (Permissible Exposure Limit): PELs are published by OSHA. They are based on interrelationships between data from experimental animal and human studies and from data on industrial experience obtained through clinical and epidemiological studies of workers to prevent irritation, discomfort, or occupational illnesses. PEL's are stressor concentration values in air below which nearly all persons may be exposed for given durations without adverse effects.

1. Permissible Exposure Limit--Time Weighted Average (PEL-TWA). The concentrations in air of a stressor averaged over an eight-hour or ten-hour workday as appropriate. There may be contact with time period concentrations above the PEL concentraion as long as they are balanced by time period concentrations below the PEL concentration so that the concentration average over the appropriate workday does not exceed the PEL-TWA.

2. Permissible Exposure Limit--Ceiling (PEL-C). A PEL-C is a concentration which may not be exceeded, even instantaneously. The irritant gases or compounds with a ceiling are denoted by a C".

o PPE (Personal Protective Equipment): A device or item to be worn, used or put in place for the safety or protection of an individual or the public at large, when performing work assignments in or entering hazardous areas, or under hazardous conditions. PPE includes hearing

protection, respirators, electrical matting, barricades, traffic cones, lights, safety lines, life jackets, protective clothing, shoes, gloves, etc.

o <u>Primer</u>: NOHIMS Primer, see References.

o <u>STEL</u>: Short Term Exposure Limit (a 15-minute time weighted average exposure measurement).

o <u>Stressor (Toxic Substance)</u>: Any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress, noise, heat, cold, hypo-hyperbaric pressure, etc., which is:

1. Regulated by any NAVOSH Standard or Federal Law or rule due to a hazard to health.

2. Listed in the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemicals.

o <u>TC Number</u>: An approval number assigned by NIOSH and the Mine Safety Health Administration in testing and certifying the respirator.

o <u>Template</u>: A file entry containing a description of an input sequence or an output report.

o <u>Tickler</u>· A dated "scratch pad" file for noting reminders and/or messages.

o <u>TLV (Threshold Limit Values)</u>: Established by the American Conference of Governmental Industrial Hygienists (ACGIH), TLVs refer to airborne concentrations of a substance and represent conditions under which it is believed that nearly all workers may be exposed day after day without adverse effect.

o <u>TWA (Time-Weighted Average)</u>: An exposure measurement calculated to represent an eight-hour exposure.

o <u>U.I.C. (Unit Identification Code)</u>: A unique number assigned to each Navy facility.

o <u>VA</u>: Veterans Administration.

o <u>VDT</u>: Video Display Terminal.

o <u>Walkthrough</u>: See Inspection.

1.4 How to Use This Guide

This guide describes how to execute the module's various menu options. Section 2 contains an overview description of the module; this information should help the user determine if the system activities he or she wishes to perform are performed by this module. Section 3 then presents an overview of the module's menus; this information is intended to help the user identify which of the menu options should be used (Section 2 of the Primer explains the mechanics of selecting menu options).

For ease and clarity of discussion, the module's menu options have been grouped into processes, where each process deals with a major feature of the module. Usually, the process is further broken down into various input and output subprocesses. Each section after Section 3 describes a specific process. Each of these sections begins with a discussion of the major points that must be known to use the process effectively. If the process has been broken into subprocesses, a brief discussion of the highlights of each subprocess is then presented. In most cases, for each subprocess an actual prompt sequence is shown; notes are keyed to selected prompts. These notes present especially important information about the responses to these prompts. Messages and prompts shown in the figures that are displayed by the system are without underline; responses by the user are underlined. If the response to a prompt is straightforward, there is no accompanying note; the user should be able to understand how to respond to the prompt by using the Help message feature of FileMan. To understand prompts and prompt responses fully, the user must first read Sections 3 through 10 of the Primer.

In an attempt to keep the Operators' Guide as short as possible, most of the general information about the module (such as the contents of input forms and output reports) that was presented in the module's Users' Manual has been excluded in the Operators' Guide. If the user wishes to review the material in the Users' Manual while using the Operators' Guide, he or she should consult the Environmental Exposure Module Operators' Guide/Users' Manual Cross Reference (Table 1-1) to determine quickly which portion of the Users' Manual should be read.

It is important to recognize that the Operators' Guide is not organized by menu option; rather, it is organized by process. Frequently, a user will not wish to review the material that describes how to perform a process. Instead, the user will wish to review the material that deals directly with specific menu option. When this situation occurs, the user can locate the desired section by either reviewing the Index in the back of this document locating the appropriate menu option in the table appearing in Section 3. the latter case, the specific section number that describes how to use the option appears in parenthesis after the option's name.

TABLE 1-1
ENVIRONMENTAL EXPOSURE MODULE
OPERATORS' GUIDE/USERS' MANUAL CROSS REFERENCE

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1.2 References	1.2 References
1.3 Terms and Abbreviations	1.3 Terms and Abbreviations
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6.2 Enter/Edit Samples	3.4 Enter/Edit Sampling Data

TABLE 1-1
ENVIRONMENTAL EXPOSURE MODULE
OPERATORS' GUIDE/USERS' MANUAL CROSS REFERENCE
(Continued)

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6.3 Sample Survey Data Report Options	4.4 Report Sampling Data
7.1 Introduction to the Personal Exposure Assessment Processes	---
7.2 Compile New Over MSALs	---
7.3 Print Over MSAL List	4.4 Report Sampling Data
7.4 Prepare Exposure Notices	---
7.5 Annotate Over MSAL Record	---
7.6 Printing Exposure Notices	4.4 Report Sampling Data
8.1 Introduction to Ventilation Survey Data Processes	---
8.2 Ventilation Survey Entry	3.5 Enter/Edit Ventilation Survey Data
8.3 Ventilation Survey Reports	4.5 Report Ventilation Survey Data
9.1 Introduction to Material Inventory Survey Processes	---
9.2 Material Inventory Entry	3.7 Enter/Edit Material Inventory Data
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10.1 Introduction to Survey Actions Data Processes	---
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TABLE 1-1
ENVIRONMENTAL EXPOSURE MODULE
OPERATORS´ GUIDE/USERS´ MANUAL CROSS REFERENCE
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13.6 Collection Instrument Reports	4.3 Report Equipment Data

TABLE 1-1
ENVIRONMENTAL EXPOSURE MODULE
OPERATORS' GUIDE/USERS' MANUAL CROSS REFERENCE
(Concluded)

Operators' Guide	Users' Manual
14.1 Introduction to Support Files Maintenance Processes	---
14.2 Create Exposure Notice Form Letter	3.12 Enter/Edit Form Letters Exposure Notice
14.3 Set Up Material Product File	3.8 Enter/Edit Material Composition
14.4 List Material Product File	4.8 Report Material Composition
14.5 List Reference Files	4.12 List Reference Tables

2.0 MODULE OVERVIEW

2.1 Module Summary

As shown in Figure 2-1, the EE module performs four major processes:

o Maintain Boundary Data

o Maintain Equipment Data

o Maintain Survey Data

o Support Monitoring Planning

In maintaining boundary data, the module keeps an up-to-date record of each boundary's status by recording when each boundary is opened and closed. Record keeping of Boundary Access Logs provides a detailed view of the amount of time employees are spending in boundaries. Using this information, the Industrial Hygienist can assess the compliance of facility personnel with policies that limit the number of days an employee is allowed to work in boundary operations each quarter and annually.

In maintaining equipment data, the module keeps an on-line inventory of all collection instruments used in a facility. These data are used to reduce the amount of data entry for samples collected in the conduct of industrial hygiene (IH) surveys. It also supports analysis of sampling results obtained with a collection instrument, which may point to problems with the performance of a particular piece of equipment. An optional feature of this process allows the facility to maintain calibration history data for each collection instrument. Using the calibration due dates, the process reports the collection instruments due for calibration in a given time frame.

By far the most important and complex aspect of the EE module is the maintenance of survey data. Data collected during IH surveys of the workplace, including walkthroughs, material inventories, air samples, direct reading samples, noise surveys, heatstress surveys, bulk or wipe samples, ventilation surveys, is maintained on-line. These data are made readily available in a variety of survey reports for the use of the industrial hygienists responsible for recognition, evaluation, and control of hazards the workplace. By reviewing the survey data, the IH professional can gain improved view of the hazard profile of the facility and can design better programs to protect the worker.

The module supports both field IHs and management by providing survey reports at various levels of aggregation. The module automatically evaluates sample data and reports samples collected that are over the defined limit. An Over Medical Surveillance Action Level (MSAL) report is produced to show each person who has been sampled or was in the sampling area when an over

2-1
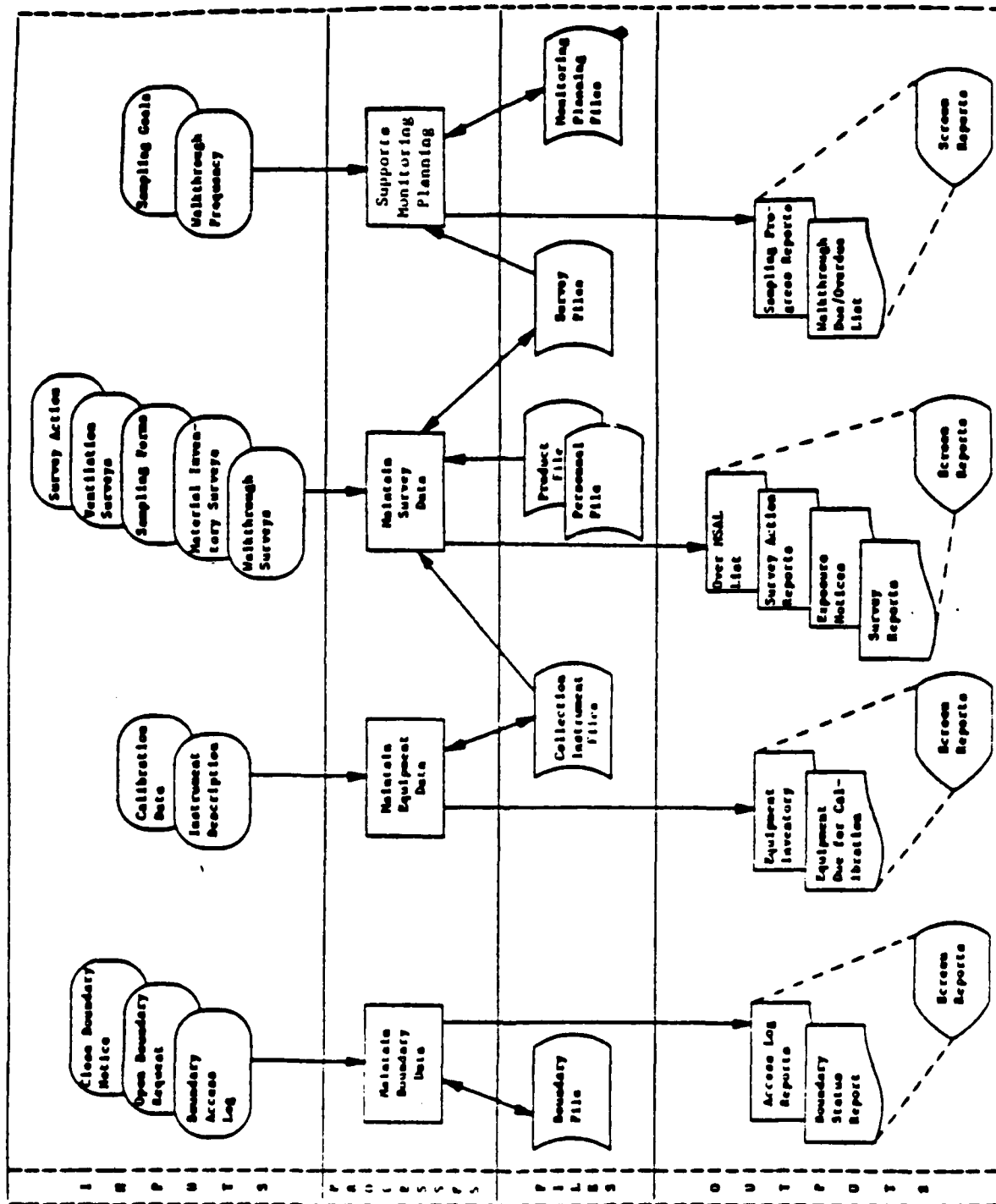
FIGURE 2-1

ENVIRONMENTAL EXPOSURE MODULE OVERVIEW

limit condition was found. Referring to reported cases of over limit exposures, the IH can send form letter exposure notices to the affected employee(s) via the module.

The final major feature of the survey data maintenance process is its ability to handle survey actions. This feature provides a scratch pad or reminder file for the IH to record notes of some specified follow-up action to be taken. For the IH who uses this capability, there may be an increased sense of thoroughness in the execution of his or her job.

A support process for monitoring planning is part of the EE module. The process allows the IH manager to define the walkthrough frequency (if other than every 12 months) for each location/operation. Walkthroughs Due and Overdue Reports then remind the persons responsible for planning IH activity where walkthroughs need to be done according t: the entered frequency. Additional support is provided to the IH manager in the area of sampling activity. Once sampling goals have been established and entered, the module provides a Sampling Progress Report which shows the number of samples collected for each goal set and the percent completed of the goal. Together these two support functions provide IH managers with information that enables them to make use of the monitoring plans established to govern the scheduling of IH work and to determine the degree to which they are being successful in executing the plans as established.

2.2 Module Data Base

There are two types of files in NOHIMS:

o Application files--These files are primarily intended to support the functions of a specific module, although in certain cases they may be used by other modules. In addition, the contents of these files change frequently as new data are added to the files or old data are removed from these files.

o Reference files--These files differ from application files in that they contain controlled vocabularies of terms. The contents of the files may be static or change slowly over time.

This module also uses files that were created and previously used by other modules. These files are used as reference files in that they contain a controlled vocabulary of terms, but in certain situations, they also serve as application files in that their contents may be updated by the user. The major files of the Exposure module are the following:

Application files	Reference files
Boundary	Product
Walkthrough	Survey Monitor
Sample Survey	Personal Protective Equipment
Collection Instrument	Respirators
Lab Tracking	Exposure Notices
Monitoring Plan	
Over MSAL Results	
Sampling Goals	
Survey Actions	
Ventilation Survey	

The Boundary file contains all administrative data maintained for a boundary as well as the employee access information. A record is created for each boundary in existence via filing an Open Boundary transaction. The boundary is marked as closed when a Close Boundary transaction is entered. For any shift when the boundary was open, access log information may be entered.

The Walkthrough file contains data collected during walkthroughs. For each location/operation surveyed, a record describing the operation and listing the machinery, physical hazards, engineering controls, other controls, respiratory protection, personal protective equipment, materials, and non-material related stressors is maintained.

The Sample Survey file contains air samples, direct reading samples, noise surveys, heatstress surveys, bulk samples, and wipe samples. This data includes the date sampled, location, operation, identification of the responsible IH, and sample results, as well as the identity of the employee sampled, and any number of employees who were in the area at the time of sampling for whom the sample is to be considered representative of potential exposure.

The Collection Instrument file contains descriptive data about each instrument used to collect samples in the workplace and, optionally, calibration history data as well. The Lab Tracking file contains data about each sample sent out of the facility for analysis. When the sample results are returned, the entry in the file is marked as returned and, optionally, the cost of analysis may be entered.

The Monitoring Plan file contains a description of each location/operation that has been walkthrough-surveyed and the frequency in which subsequent walkthrough inspections should be conducted.

The Over MSAL Results file contains an entry for each person/result of a sample which has exceeded a limit value for the stressor as maintained in the

Stressor file. In addition, this file contains the data to support the production of Exposure Notices that are to be sent to the employee as a result of the exposure.

The Sampling Goals file contains the stated goals for sampling in the workplace. Goals are established for Stressors to be collected in a location/operation environment.

The Survey Actions file acts as a notepad or reminder file in which the IH staff may record actions for follow-up on and a follow-up date. By printing the Survey Actions file for a range of follow-up dates, they can keep up-to-date on the actions they have recorded.

Ventilation Survey results are stored in the Ventilation Survey file. Information describing the condition of each source of a ventilation system is stored.

The Product file contains the name and various synonyms for material products found in the workplace and the stressor contents. The objective of the file is to provide a standard list of the stressors contained in a material product, so that a stressor list may be automatically created based on a list of products (data collected during a walkthrough). The capability exists to identify which records in the Materials file are the same as a product, so that cross-reference information is available at any time.

The Survey Monitor file contains minimal identifying information on each of the persons who conduct surveys or sampling in the facility.

The Personal Protective Equipment (PPE) file and the Respirators file contain the standard controlled vocabulary for PPE and Respirators, respectively. All description of PPE and Respirators in the system is controlled by the contents of these files.

The Exposure Notices file contains the text and format of each of the form letters that are sent to an employee when required by regulations or policy. The EE module can actually fill in certain fields within the text of a letter from the Exposure data base.

This module also uses files that were created and previously used by other modules. These files are used as reference files in that they contain a controlled vocabulary of terms, but in certain situations, they also serve as application files in that their contents may be updated by the user. These files and the modules that primarily create and maintain them are listed below:

o Administration Module

   - Agency Unit

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- Employee

- Location

- Occupation

- Stressor

o Hazardous Materials Control Module

- Materials

2.3 Data Preparation for the Exposure Module

One of the major goals in automating the data for the Exposure module is to make analysis and review of the data at a later time easier than when relying on paper records of exposure events. A constraint that automation imposes on the IH professional under this scenario is that certain key data items be controlled to enable the computer to equate equal values and to aggregate groups of values appropriately. In the EE module the vocabulary for each of the following major data fields is controlled:

o Employees

o Agency and agency units

o Stressors

o Operations

o Personal protective equipment

o Respirators

o Locations

o Collection instruments

o Products

The vocabularies for employees, agencies, and agency units (shops) are based on familiar names or codes. In the case of an employee, either a name, a social security number, or a badge number is sufficient to identify the person uniquely. In the case of agencies, common abbreviations are used. For agency units, either the name or the code of the unit is sufficient. There should be no need for the IH to adjust data collection and recording habits in either of these areas to accommodate NOHIMS.

In identifying a stressor to NOHIMS, the IH is able to use standard names as well as any synonym. This should permit the use of the current vocabulary in most cases.

When the IH is conducting surveys or recording boundaries in the workplace, he or she needs to be familiar with the standard vocabularies for operations, personal protective equipment, and respirators, and he or she also needs to know the conventions in effect at that site for naming locations.

Collection instruments may be nicknamed at each site, and the IH may use either the serial number of the instrument, or its assigned nickname, to identify a specific collection instrument.

In identifying materials found in the workplace during surveys, the IH is limited to using the names (or acronyms) that are stored in the Products file. Materials for which there is no Products file entry cannot be entered into the system. Therefore, when a material is found that does not appear in the Products file, the responsible IH personnel should determine whether this material name should be a new synonym for a Product file entry or a new entry in the file, and the appropriate update should be made.

3.0 MODULE MENUS

Table 3-1 shows the EE module menus. The list of suboptions under an option are those that are available by selecting the option. You should be aware that all NOHIMS menus are modified by the security functions of the system so that a user is only shown options for which he or she has been granted access authority. The menus in Table 3-1 show all options without regard to user access authority. When you are actually using the EE module, you may not see some of the options described here because of your access authority restrictions.

The four major types of data in the EE module are the following:

o Survey Data

o Boundary Data

o Equipment Data

o Monitoring Planning Data

To enter Survey Data, use the options contained under Survey Entry. Use options contained under Survey Reports to get reports on walkthroughs, material inventories, ventilation surveys, and survey actions. Use the options under Samples Reports to get either detailed or aggregated reports on air samples, direct reading samples, noise surveys, heatstress surveys, bulk samples, or wipe samples. Use the options under Employee Reports to get reports about employees' exposure, as contained in air samples, direct reading samples, noise surveys, and heatstress surveys. Also, use Employee Reports to report results that are over the MSAL and to process any exposure notices that must be sent to employees.

To enter Boundary Data, including open boundary and close boundary transactions as well as boundary access logs, use the options under Boundary Management. Reports showing boundary status or access log data are also available under this heading.

To enter Equipment Data, including both the inventory of collection instruments and the calibration data, use the options under Equipment Calibration. Also, use these options to get inventory reports, calibration reports, or a report on a specific collection instrument.

To enter Monitoring Planning Data, including walkthrough frequency and sampling goals, use the options under Monitoring Planning. Reports of walkthroughs due or overdue, as well as sampling progress reports, are also available under this heading.

TABLE 3-1
EXPOSURE MODULE MENUS

1. Boundary Management

   1. Open Boundary (4.2)
   2. Close Boundary (4.4)
   3. Reopen Closed Boundary (4.5)
   4. Enter Access Log (4.3)
   5. Boundary Status Report (4.6)
   6. Access Log by Boundary (4.6)
   7. Access Log by Stressor (4.6)
   8. Access Log for Employee (4.6)

2. Survey Entry

   1. Enter/Edit Sample Survey (6.2)
   2. Ventilation Survey Entry (8.2)
   3. Walkthrough Data Entry (5.2)
   4. Material Inventory Entry (9.2)
   5. Survey Action Entry (10.2)
   6. Survey Action Completion (10.3)

3. Monitoring Planning

   1. Walkthrough Frequency Entry (12.3)
   2. Enter Sampling Goals (12.4)
   3. Walkthroughs Due Report (12.6)
   4. Overdue Walkthroughs Report (12.7)
   5. Sampling Progress Report (12.5)

4. Equipment Calibration

   1. Enter/Edit Collection Instrument (13.2)
   2. Record/Edit Calibration for Returned Instrument (13.5)
   3. Send Out Instrument for Calibration (13.4)
   4. Inactivate an Existing Instrument (13.3)
   5. List Equipment Inventory (13.6)
   6. List of Instruments Due for Calibration (13.6)
   7. Inquire on Collection Instrument (13.6)

TABLE 3-1
EXPOSURE MODULE MENUS
(Continued)

5. Sample Tracking

    1. Send Out Samples (11.2)
    2. Receive Sample (11.3)
    3. Overdue Samples Report (11.4)
    4. Outstanding Samples Report (11.4)

6. Employee Reports

    1. Create Exposure Notice Form Letter (14.2)
    2. Prepare Exposure Notices (7.4)
    3. Annotate Over MSAL Record (7.5)
    4. Compile New Over MSALs (7.2)
    5. Employee Sample Reports (6.3)
    6. Print Over MSAL List (7.3)
    7. Exposure Notice Print (7.6)
    8. Print Exposure Notices by Employee (7.6)

7. Samples Reports

    1. Detailed Samples Report Functions (6.3)
    2. Summary Report of Samples (6.3)
    3. Detailed Bulk/Wipe Samples Reports (6.3)
    4. Overexposure/Over MSAL Report by Operation (6.3)
    5. Overexposure/Over MSAL Report by Location (6.3)
    6. Sample Summary Report by Monitor (6.3)
    7. Sample Summary Report by Stressor (6.3)

8. Survey Reports

    1. Inquire for Survey (5.3)
    2. List Locations by Stressor (5.3)
    3. Ventilation Survey Report (8.3)
    4. Walkthrough Detail Report Functions (5.3)
    5. Walkthrough Summary (by Date) (5.3)
    6. Survey Description List (by Survey Number) (5.3)
    7. Exposure Risk Report Functions (12.2)
    8. Material Inventory Report (by Survey Number) (9.3)
    9. Material Inventory Report (by Location) (9.3)
  10. Material Location List (9.3)
  11. Survey Action Report (10.4)
  12. Overdue Survey Actions Report (10.4)

TABLE 3-1
EXPOSURE MODULE MENUS
(Concluded)

9. Setup Tables

    1. Setup Respiratory Protection File (System Manager's Guide)
    2. List PPE file (14.5)
    3. Enter Clinical Data for Stressor (System Manager's Guide)
    4. Setup Laboratory File (System Manager's Guide)
    5. Setup Collection Instrument Type File (System Manager's Guide)
    6. Setup Exposure Materials File (14.3)

4.0 BOUNDARY DATA PROCESSES

4.1 Introduction to the Boundary Data Processes

The EE module maintains a Boundary file which includes the description and status of each boundary as well as the complete record of personnel access to the boundary. Samples collected in a boundary are not included in the Boundary file but are instead kept in the Sample Survey file. Boundary file data are available in a set of standard reports. The Boundary Number will have a standard format for your facility, though the system does not check the format to ensure it conforms to the standard. You should take care to make sure all Boundary Numbers are entered correctly. The options that allow the user to input or report data from the Boundary file are described in the remainder of this section.

4.2 Open Boundary

The Open Boundary option is used to create a record of a boundary operation. Each time a boundary number is assigned, this option is used to establish the Boundary file entry. This record must be created before any access logs can be entered for the boundary. The dialog between the system and the user follows in Figure 4-1, with commentary to describe the interaction in the Note attached. The example is for Boundary Number B86-0011-BJJ, a controlled asbestos boundary located in Building 750, Room 201, of the Mare Island Naval Shipyard.

4.3 Enter Access Log

The Boundary Access Log form is filled out for each shift of work in a boundary. An example of the Boundary Access Log is in Appendix A. In some cases, the facility will choose to use an access log for an entire calendar day of work rather than for each shift. The system is designed to handle either case. An example of the data entry dialog follows in Figure 4-2, with commentary on selected parts of the user interaction with the system in the Note following the figure. In this example we have entered an access log for the August 18, 1986, day shift in boundary B86-0004-MN. There are three employees contained on the access log.

4.4 Close Boundary

When a boundary is closed, a transaction must be entered into the Exposure module so that the boundary record can be marked "CLOSED" and the disestablishme : date, time, and shift can be recorded. Obviously, without the close transaction the module cannot maintain the current status of each boundary.

4-1

```
Select BOUNDARY ID NUMBER: B86-0011-BJJ          (1)
   ARE YOU ADDING 'B86-0011-BJJ' AS A NEW BOUNDARY? Y   (YES)
ID NUMBER: B86-0011-BJJ//_        (2)   (3)
STRESSOR: ASBESTOS//_
          ...OK? YES//_  (YES)
TYPE: ?
CHOOSE FROM:
        B         GLOVE BAG
        I         ISOLATED
        C         CONTROLLED
TYPE: C CONTROLLED
DATE/TIME ESTABLISHED: T@11AM  (SEP 16, 1986  11:00)    (-)
SHIFT ESTABLISHED: 1 DAY SHIFT
DATE/TIME BOUNDARY @ ASSIGNED: T//_  (SEP 16, 1986)   (5)
LOCATION: MI,BLDG750                                (6)
        1   BLDG750   MI,BLDG750,RM201
        2   BLDG750   MI,BLDG750,RM200
CHOOSE 1-2: 1  MI,BLDG750,RM201
LEAD SHOP: 964                           (7)
        1   964            WOODWORKERS & INSULATORS SHOP   IN:MINS
        2   964            WOODWORKING SECTION  IN:MASNI
        3   964.1              WOODWORKERS  IN:MINS
        4   964.1              WOODWORKING SHOP   IN:MASNI
        5   964.2              PLASTICS SHOP  IN:MINS
TYPE '^' TO STOP, OR
CHOOSE 1-5: _
        6   964.3          RUBBER SHOP  IN:MINS
        7   964.4          INSULATOR SHOP  IN:MINS
CHOOSE 1-7: 7
SUPERVISOR: RENKIN,KENNY  RENKIN,KENNY        (8)
                      M  97205        000000035   SHOP: 972      (MINS)
          ...OK? YES//_  (YES)
WORK PROCEDURE NUMBER' _
Select BOUNDARY ID NUMBER: _
```

FIGURE 4-1
OPEN BOUNDARY

NOTES ON OPEN BOUNDARY INPUT SEQUENCE

1. We entered the boundary number, asking the system to see if the number is already on file. In this case, the number is a new one, and we have added it to the file (Primer, Section 8.2). If we had been trying to edit a boundary entry, the system would only allow us to edit boundaries that are currently in an "OPEN" status.

2. Just in case the boundary number we entered had an error in it, we can change it at this prompt. If everything is all right, as it is here in our example, we can simply enter Return (i.e., accept the default value) to move to the next prompt.

3. The Stressor field is a pointer to the Stressor file. The system is asking us if the stressor for this boundary is "ASBESTOS". Since in our case this is the stressor, we have accepted the default value. If we had wanted to say the boundary was created for the stressor "LEAD", we would enter "LEAD" and the system would try to find that stressor (Primer, Section 7.5).

4. The system wants to know the date and time that the boundary was established. We must always enter a date, and optionally the time.

5. The system shows us the default value of "T" for today for the date on which the boundary number is assigned. It is assuming that you are keeping up with your data entry. You should enter the Open Boundary data as soon as you can after assigning the boundary number.

6. Now we have to enter the Location (Primer, Section 7.3). In this example, we have tried to look at which locations are on file for "MI,BLDG750" to see if the location we want is already on file. This is a required field.

7. The Lead Shop is the shop in charge of the boundary operation. When we enter the Lead Shop data, we are looking into the Agency file (Primer, Section 7.2). In our case, we want to enter shop 964.4 in Mare Island Naval Shipyard (MINS). When we entered "964", we got a candidate list of all the shops that start with 964. Then we picked the correct shop.

8. To enter the supervisor, we are doing a lookup in the Employee file (Primer, Section 7.3). Our example shows that we entered the full name "RENKIN,KENNY", and the system selected the employee we wanted.

```
Select BOUNDARY ID NUMBER: 986-0004-MN                      ①②
Select SHIFT RECORD DATE: 18 AUG    AUG 18, 1986
    ARE YOU ADDING A NEW SHIFT RECORD DATE (THE 3RD FOR THIS BOUNDARY)? Y  (YES)
Select SHIFT: ?                                                              ③
 ANSWER WITH SHIFT
   YOU MAY ENTER A NEW SHIFT, IF YOU WISH
Select SHIFT: 1  (DAY)
   ARE YOU ADDING '1' AS A NEW SHIFT (THE 1ST FOR THIS SHIFT RECORD DATE)? Y
   (YES)
SHIFT: DAY//_
SUPERVISOR: ?    ④
    SPECIAL LOOKUP

ENTER THE EMPLOYEE'S NAME IN THE FORM LASTNAME,FIRSTNAME MI
  OR ENTER THE EMPLOYEE'S SSN
  OR ENTER THE EMPLOYEE'S BADGE NUMBER IN THE FORM 'B/'BADGE NUMBER
SUPERVISOR: SPILL,M  SPILLANE,MICHAEL            ⑤
                      M  13401        000000015     SHOP: 134       (MINS)
        ...OK? YES//_  (YES)
SUPERVISOR CHECKLIST RECEIVED: Y  YES
Select EMPLOYEE: SPIL,M  SPILLANE,MICHAEL
                      M  13401        000000015    SHOP: 134        (MINS)
        ...OK? YES//_  (YES)
RESPIRATOR TYPE: HF                    ⑥
      1   HFDFM        HALF FACE, DUST FUME MIST
      2   HFDFMA        HALF FACE, DUST FUME MIST ASBESTOS
      3   HFDFMH        HALF FACE, DUST FUME MIST HEPA FILTER
      4   HFOV         HALF FACE, ORGANIC VAPOR
      5   HFP          HALF FACE, PESTICIDE
TYPE '^' TO STOP, OR
CHOOSE 1-5: 2
BOUNDARY OPERATION: TA002          ⑦   THERMAL INSULATION ASBESTOS,BRAKE SHOE
Select TIME IN: 14:00
TIME IN: 14:00//_          ③⑤
TIME OUT: 16:20
Select TIME IN: 800
TIME IN: 08:00//_          ⑧⑤
TIME OUT: 1205
Select TIME IN: _
```

FIGURE 4-2
ENTER ACCESS LOG

```
Select EMPLOYEE: ISA,PI  ISADORA,PIA
                    F  00096        000234567   SHOP: 360        (MSMI)
        ...OK? YES//_ (YES)
    ARE YOU ADDING A NEW EMPLOYEE (THE 10TH FOR THIS BOUNDARY)? Y  (YES)
RESPIRATOR TYPE: HFDFHA        HALF FACE, DUST FUME MIST ASBESTOS
BOUNDARY OPERATION: TA002          THERMAL INSULATION,ASBESTOS,BRAKE SHOE
Select TIME IN: 800
TIME IN: 08:00//_
TIME OUT: 12:15
Select TIME IN: 1300
TIME IN: 13:00//_
TIME OUT: 1700
Select TIME IN: _
Select EMPLOYEE: AA,J  AARDVARK,JOE
                    M  609100    221446601   SHOP: 134        (MINS)
        ...OK? YES//_ (YES)
    ARE YOU ADDING A NEW EMPLOYEE (THE 11TH FOR THIS BOUNDARY)? Y  (YES)
RESPIRATOR TYPE: HFDFHA        HALF FACE, DUST FUME MIST ASBESTOS
BOUNDARY OPERATION: TA002          THERMAL INSULATION,ASBESTOS,BRAKE SHOE
Select TIME IN: 700
TIME IN: 07:00//_
TIME OUT: 1150
Select TIME IN: 1300
TIME IN: 13:00//_
TIME OUT: 1430
Select TIME IN: _
Select EMPLOYEE: _
Select BOUNDARY ID NUMBER: _
```

FIGURE 4-2

ENTER ACCESS LOG
(Concluded)

NOTES ON ENTER ACCESS LOG INPUT SEQUENCE

1. The Boundary Number lookup is a standard lookup from the file (Primer, Section 8.2).

2. The Shift Record Date is the date on which the shift was worked or the date of the access log form. There are multiple Shift Record Dates on file for boundaries that are worked in for more than one shift.

3. The Shift field is a multiple within the Shift Record Date. You could possibly enter an access log for three shifts all on the same date. If you are entering an access log that contains an entire calendar day, use the code "0" (zero) for the Shift.

4. The Supervisor field is a pointer to the Employee file (Primer, Section 7.3).

5. The Employee field is a multiple field in an access log record. You may identify an Employee in any of the standard ways (Primer, Section 7.3). Because an access log only contains four time in/time out spaces on a single line, an employee may fill out more than one line on the form if he has been in and out more than four times during the shift. The system allows an indefinite number of accesses (time in/time out) to be recorded for each employee each shift.

6. The Respirator Type field is a pointer to the Respirators file. You may not add a new respirator to the file while you are entering the access log.

7. The Boundary Operation field is a pointer to the Operation file. No new operations may be defined as you enter the access log data.

8. Both the Time In and Time Out fields must be entered in military time format. The colon between hours and minutes is not required.

When you enter the Boundary Number to select the boundary you wish to close, you may only choose from among the boundaries that are currently "OPEN". The system will display descriptive information to you about the Boundary entry you have selected before you are asked to enter the date/time disestablished. Only enter data into the Date/Time Disestablished field if the entry you have selected is the one you want. You must enter at least the date. As with all date/time fields in the boundary record, the time position of the field is optional.

4.5 Reopen Closed Boundary

In the event that a boundary has been closed when it should not have been, the system allows you to reopen its record. When you are trying to select a boundary to reopen, you may only select from among those that are currently "CLOSED".

4.6 Boundary Report Options

Table 4-1 describes the sort/selection criteria for the boundary data report options.

TABLE 4-1
BOUNDARY REPORT OPTIONS

Report Option	Sort/Selection Criteria

Access Log for Employee	Employee Name
	    Stressor Name
	        Boundary ID Number

Access Log by Stressor	Stressor Name
	    Employee Name
	        Boundary ID Number
	            Date/Time In

Boundary Status Report	Status ("OPEN" or "CLOSED") Date/Time Boundary Assigned

Access Log by Boundary	Stressor Name
	    Employee Name
	        Boundary ID Number
	            Date/Time In

5.0 WALKTHROUGH SURVEY DATA PROCESSES

5.1 Introduction to the Walkthrough Survey Data Options

A walkthrough will be conducted at least annually in each of the permanent workplaces of a facility. A walkthrough is given a unique survey number to identify the set of data collected. When the IH is initially collecting walkthrough survey data, each operation in each unique location (location/operation) will be described on a separate sheet. A set of these sheets for specific locations/operations will comprise a walkthrough survey. The Walkthrough Survey Cover Sheet serves to identify the investigators, dates during which the survey was conducted, reason the survey was conducted, and other information about the whole survey.

On subsequent walkthroughs, the IH may use the Walkthrough Detail Report as a "turnaround document". This means that the IH may print the Walkthrough Detail Report and then take this report into the field to use in collecting the new walkthrough data. Conditions that are the same as when previously surveyed may be checked; conditions that are no longer the same may be crossed out on the report, and new conditions may be noted. The use of the report in this way should reduce the writing and transcription load on the IH staff in those workplaces that experience little variation. For a refitted area, it may be more beneficial simply to collect the data as if it were an initial or baseline walkthrough.

5.2 Walkthrough Data Entry

The walkthrough Data Entry option is used to enter walkthroughs. A walkthrough record is composed of three major forms. The Walkthrough Survey Cover Sheet contains the data items that relate to the whole walkthrough survey such as survey number, investigator, and dates. The Walkthrough Survey form is filled out for each location/operation that is included in the walkthrough survey. There are as many of these forms as there are individual locations/operations surveyed. The third form is the Material Survey Form. It is filled out for each location/operation to list all the materials found in the environment. When you are entering the walkthrough survey data, you need to enter the cover sheet only once, and then enter each of the Walkthrough Survey Forms and the Material Survey Forms that belong with each of them. Examples of these forms are in Appendix A. The dialog between the system and user follows in Figure 5-1, with commentary in the Note following the figure where the interaction is not self-evident. This survey is 586-0020-BJJ which covers only one location (MI, BLDG 200, RM 100) and one operation (bending). There is a survey action recorded in this survey.

Are you going to create a new survey from an old survey? N// _ ①

Select WALKTHROUGH SURVEY NUMBER: S86-0020-BJJ ②
    ARE YOU ADDING 'S86-0020-BJJ' AS A NEW WALKTHROUGH? Y (YES)
SURVEY NUMBER: S86-0020-BJJ// _
ROUTINE/SPECIAL: R
CHOOSE FROM:
        R   ROUTINE
        S   SPECIAL
ROUTINE/SPECIAL: R ROUTINE
FROM DATE: T-10 (SEP 6, 1986)
TO DATE: T-1 (SEP 15, 1986) ③
INVESTIGATOR: JACOBS,BEN ③
    ARE YOU ADDING 'JACOBS,BEN' AS A NEW SURVEY MONITOR (THE 7TH)? Y (YES)
    SURVEY MONITOR ORGANIZATION: ?
        Enter the name of the ORGANIZATION the monitor works for in 3-30 CHARACTERS
    SURVEY MONITOR ORGANIZATION: MINST
    SURVEY MONITOR UIC: 00230
ASSISTANT: _
SURVEY COMMENT: ④ ⑤
    1>TIS SURVEY WAS CONDUCTED TO PROVIDE AN EXAMPLE OF THE TYPE OF DATA ENTRY
    2>SEQUENCY ONE MIGHT USE IN ENTERING WALKTHROUGH DATA INTO OSHRKS.
    3>
EDIT Option: 1
    1>TIS SURVEY WAS CONDUCTED TO PROVIDE AN EXAMPLE OF THE TYPE OF DATA ENTRY
    Replace II With THI Replace IRR With R Replace ENE With ENTR
    Replace _
    THIS SURVEY WAS CONDUCTED TO PROVIDE AN EXAMPLE OF THE TYPE OF DATA ENTRY
Edit line: 2
    2>SEQUENCY ONE MIGHT USE IN ENTERING WALKTHROUGH DATA INTO OSHRKS.
    Replace Y With E Replace _
    SEQUENCE ONE MIGHT USE IN ENTERING WALKTHROUGH DATA INTO OSHRKS.
Edit line: _
EDIT Option: _
Select LOCATION: MI,BLTG200 ⑥
        1   MI,BLDG200,RM100
        2   MI,BLDG200,RM150
        3   MI,BLDG200,RM200
        4   MI,BLDG200,RM300
CHOOSE 1-4: 1
    ARE YOU ADDING '35' AS A NEW LOCATION (THE 1ST FOR THIS WALKTHROUGH)? Y
    (YES)
LOCATION: MI,BLDG200,RM100// _ ⑦
Select OPERATION: SHB001   SHAPING OPS,BENDING,BENDING   ⑧
    ARE YOU ADDING A NEW OPERATION (THE 1ST FOR THIS LOCATION)? Y (YES)
OPERATION: SHB001// _
OPERATION COMMENT:
    1>THE BENDING OPERATION AS SURVEYED ON THIS DATE WAS SUFFICIENTLY SAFE.
    2> _
EDIT Option: _

FIGURE 5-1

WALKTHROUGH DATA ENTRY

5-2

```
SHOP: 931    (9)
   1    931              MACHINE SHOP   IN:MINS
   2    931              MACHINE BRANCH  IN:MASNI
   3    93100              GROUND SUPPORT EQUIPMENT   IN:NARF
   4    93120              GSE MECHANICAL   IN:NARF
   5    93130              GSE PAINT SHOP  IN:NARF
CHOOSE 1-5: 1
FREQUENCY OF OPERATION: ?    .   (10)
 ANSWER WITH FREQUENCY OF OPS NAME, OR CODE
CHOOSE FROM:
   2-3 TIME/YEAR
   2-3 TIMES/MONTH
   2-3 TIMES/WEEK
   DAILY
   MONTHLY
   OTHER
   SPECIAL OPERATION
   WEEKLY
   YEARLY
   YOU MAY ENTER A NEW FREQUENCY OF OPS, IF YOU WISH
       NAME MUST BE 3-30 CHARACTERS, NOT NUMERIC OR STARTING WITH PUNCTUATION
FREQUENCY OF OPERATION: DAILY
DURATION OF OPERATION: ?

CHOOSE FROM:
       1          LESS THAN 1 HOUR
       2          1-4 HOURS
       3          5-8 HOURS
       4          GREATER THAN 8 HOURS
DURATION OF OPERATION: 2  1-4 HOURS
NUMBER OF PERSONS AT RISK: 25  .
EXPOSURE RISK: NEGLIGIBLE
NEGLIGIBLE RISK REASON:
  1>THERE AREN'T ANY HAZARDOUS OPERATIONS AT THIS TIM:
  2>_
EDIT Option: _
NEED TO SAMPLE: Y  YES
Select MACHINERY: DRILL PRESS      (11)
   ARE YOU ADDING 'DRILL PRESS' AS A NEW MACHINERY (THE 1ST FOR THIS OPERATION)? Y
   (YES)
Select MACHINERY: _        (12)
Select PHYSICAL HAZARD: UV RADIATION      (13)
   ARE YOU ADDING 'UV RADIATION' AS A NEW PHYSICAL HAZARD (THE 1ST FOR THIS OPERATION ' _
   (YES)
   SOURCE OF PHYSICAL HAZARD: COMBUSTION LATHES
   SIGHT HAZARDOUS: YY??
CHOOSE FROM:
       Y          YES
       N          NO
   SIGHT HAZARDOUS: Y  YES
Select PHYSICAL HAZARD: _
```

FIGURE 5-1

WALKTHROUGH DATA ENTRY
(Continued)

```
Select ENG CONTROL IN USE: UV PANELS        (14)
    ARE YOU ADDING 'UV PANELS' AS A NEW ENG CONTROL IN USE (THE 1ST FOR THIS OPERATION  _
    (YES)
    ENG CONTROL ADEQUATE: Y  YES
    ENG CONTROL COMMENT:
    1> _
Select ENG CONTROL IN USE: _
Select OTHER CONTROL IN USE: _          (15)
Select RESPIRATORY PROTECTION IN USE: _     (16)     (17)
Select PPE IN USE: _
Select MATERIAL PRODUCT: EVERYTHING GLUE        (18)     (17)
    ARE YOU ADDING A NEW MATERIAL PRODUCT (THE 1ST FOR THIS OPERATION)? Y  (YES)
    QUANTITY: _
    QUANTITY UNITS: _
Select MATERIAL PRODUCT: _
Select OTHER STRESSORS: DUST        (19)
          ...OK? YES// _   (YES)
    ARE YOU ADDING A NEW OTHER STRESSORS (THE 1ST FOR THIS OPERATION)? Y  (YES)
Select OTHER STRESSORS: NOISE
          ...OK? YES// _   (YES)
    ARE YOU ADDING A NEW OTHER STRESSORS (THE 2ND FOR THIS OPERATION)? Y  (YES)
Select OTHER STRESSORS: _
SURVEY ACTION ID NUMBER: NEW        (20)
    ARE YOU ADDING 'NEW' AS A NEW SURVEY ACTION (THE 9TH)? Y  (YES)
DESCRIPTION:
    1>RETURN TO THIS AREA TO ENSURE THAT SUPERVISOR HAS HAD THE LATHE AREA CLEANED
    2>AS DIRECTED
    3> _
EDIT Option: _
FOLLOWUP DAY: T+7  (SEP 23, 1986)       (21)
STATUS: P// _  PEND:
    SURVEY ACTION NUMBER ASSIGNED: 1-86        (22)
SURVEY ACTION ID NUMBER: _      (23)
Select LOCATION: _       (23)
Are you going to create a new survey from an old survey? N// _       (24)

Select WALKTHROUGH SURVEY NUMBER: _       (25)
```

FIGURE 5-1

WALKTHROUGH DATA ENTRY
(Concluded)

5-4

NOTES ON WALKTHROUGH DATA ENTRY SEQUENCE

1. Sometimes in entering walkthrough data you will be entering data from a computer report of a previous walkthrough. This is going to happen when the IH is returning to a workplace and carries along the report from a previous walkthrough to make his or her notes directly on the report rather than fill out new forms. This is done to save the IH writing and to save the data entry person keystrokes. This first prompt is asking you if you are working from a previous survey. If you are, you can copy the old data to a new survey record and then edit the data to make it conform to the current survey. In the example we entered a RETURN, i.e., nulled through the prompt, to indicate that we are entering this walkthrough for the first time.

2. The ID field is the Walkthrough Survey Number. We did a lookup to find the Survey Number and added it since it was not found.

3. The Investigator field is a pointer to the Survey Monitor file. We entered his name in the format: lastname, firstname. In our example, Ben Jacobs was not already on file as an Investigator, so we were asked if we wished to add him to the file. Saying "Y", we have added him, but the system wants to know more about him. It asked for the Survey Monitor Organization, and told us whom he works for. It was a free text field (3 to 30 characters), and we entered the abbreviation "MINSY". The system also wanted to know what the Unit Identification Code (UIC) was for the investigator, and we entered "00230". If we had not been adding a new investigator to the Survey Monitor file, we would only have had to identify someone who was already on file, and the Organization and UIC questions would not have been asked.

4. The system wants to know who was the Assistant Investigator for this survey. This field is also a pointer to the Survey Monitor file. If there had been an assistant, it would be handled just like the Investigator question. Since there was no assistant, we just entered a RETURN.

5. Now we are asked to enter a Survey Comment, which is a word processing type field. See Section 4.6 of the Primer for more information on word processing fields. In our initial entry of the comment we made some typographical errors. By editing lines 1 and 2 we corrected them.

6. In walkthrough data, Location is a multiple field, which you can tell
   from the prompt since it says "Select LOCATION:". We have entered a
   part of the Location name, and selected the Location from the list.
   When the system asks us if we are adding a new location, it shows us the
   internal number of the location, which is confusing. If you are sure
   you have entered the data correctly up to that point, you can answer "Y"
   to create a multiple for the entered location in the walkthrough record
   (Primer, Section 7.4).

7. Now that the Location has been selected, we are given the option of
   changing it if we need to because of a data entry error. In our example
   we do not need to make any change, so we have accepted the default
   value.

8. In the Walkthrough file, Operation is also a multiple field, as you can
   see by the prompt: "Select OPERATION:". We have entered the code for
   the Operation. The system has shown us what the text is for the code we
   entered, and asked us if we want to add a new operation. We were then
   able to change the operation if we had made an error, but in our example
   we have entered it correctly.

9. The Shop field is a pointer to the Agency Unit file. We have executed a
   partial lookup for the Shop and then selected the machine shop in MINS
   (Primer, Section 7.2).

10. The Frequency of Operation field is a pointer to the Frequency of Ops
    file. We got a list by entering the "?". To enter "DAILY" only
    required us to put in a "D" because it was the only possibility that
    started with D.

11. The Machinery field in the Walkthrough file is a free text multiple.
    To enter a new type of machinery, you type in the name. There is no
    more information to enter for each Machinery entry than its name.

12. When we had no more Machinery data to enter, we entered a RETURN at the
    "Select MACHINERY:" prompt to indicate that there were no more. We do
    this at the end of each of the multiples up in the walkthrough data so
    that the system moves on to the next item.

13. In the Physical Hazard multiple the system wants to know three things about each Physical Hazard: its name, the source, and if it is sight hazardous. We have entered "UV RADIATION" for the physical hazard name and "COMBUSTION LATHER" for the source. When we entered the "Y" for sight hazardous, we made an error which made the system show us the "??" and the list of acceptable answers. We then answered with a valid response.

14. The Engineering Controls in Use multiple field is free text. For each entry, you are also asked two other questions: "Adequate?" and "Comment". These questions are also going to be asked for each Other Control, Respiratory Protection, and PPE field.

15. Just as in the previous cases when we have finished entering Physical Hazards or Engineering Controls, we enter a RETURN to tell the system that we don't have any more of that kind of data to enter. In this case, we enter the RETURN to indicate that we have no other controls to enter.

16. The Respiratory Protection field is a pointer to the Respirators file. You can not enter data that is not already in the Respirators file. In our example we did not have any respiratory protection to enter.

17. The PPE field is a pointer to the Personal Protective Equipment file. As with respirators, you can not enter any PPE that is not already in the file.

18. The Material Product field in the walkthrough file is a pointer to the Product file. You may not enter anything that is not already in the Product file. For each material product you may optionally enter quantity and unit data.

19. The Other Stressor field is a pointer to the Stressor file. You may not add a new Stressor to the file when entering walkthrough data (Primer, Section 7.5).

NOTES ON WALKTHROUGH DATA ENTRY SEQUENCE
(Concluded)

20. Survey Actions can be entered during the walkthrough data entry process. Survey Actions are filed in the Survey Actions file as they are entered. By entering the Survey Actions during Walkthrough Data Entry, the system is remembering the Survey Number, Location, Operation, and other fields of the Survey actions entry, and is saving you the work of entering these fields again. To enter a new survey action, we entered "NEW" for the Survey Action ID Number. The system assigns numbers to each survey action.

21. Presumably, the reason we are entering a survey action is because it is pending. By entering a RETURN, we accepted the default of "PENDING".

22. Now that the survey action number has been assigned by the system, we are shown what number was assigned. You should write this number on the Walkthrough Survey Form next to the survey action you just entered.

23. The system goes back after each Walkthrough Survey Form to get ready for the next one. If you have another form for the same survey number, you can begin entering the data here. In our example, we have no more forms to enter.

24. Since the system knows we are done with the survey we had been entering, it asks us if we want to make a new survey from an old one. If you are ready to enter your next survey, you can begin doing that now. Since we did not have more surveys to enter, we entered a RETURN. At the "Select WALKTHROUGH SURVEY NUMBER:" prompt a RETURN or " " gets us out of the option.

5.3 Walkthrough Data Report Options

The sort/selection criteria for the walkthrough data report options are shown in Table 5-1.

TABLE 5-1
WALKTHROUGH DATA REPORT OPTIONS

Report Option	Sort/Selection Criteria
Survey Description List	Survey Number
Walkthrough Summary (by Date)	From Date
Inquire for Survey	Survey Number
Walkthrough Detail Reports	1. Survey Number 2. Location 3. Operation Code
List Locations by Stressor	Stressor Name From Date

6.0 SAMPLE SURVEY DATA PROCESSES

6.1 Introduction to Sample Survey Data Processes

In NOHIMS, sample survey data includes Air Sample Forms, Direct Reading Sample Forms, Noise Survey Forms, Heatstress Survey Forms, Bulk Sample Forms, and Wipe Sample Forms. Examples of these forms are in Appendix A.

Sampling forms require an Industrial Hygiene Survey Cover Sheet to identify when, where, by whom, for what operation, and the survey number for which the sampling was done. Each cover sheet in a survey is for a specific date, investigator, location, and operation. It is assigned a Document Number by which the sampling forms are connected to these data. When a new location or operation is sampled, the investigator taking the measurements is different, or the date is different, a new cover sheet must be filled out.

Individual sampling forms become pages associated with the cover sheet by document number.

6.2 Enter/Edit Samples

The Enter/Edit Samples option is used to enter all sample survey data into the system. Samples include air samples, direct reading samples, noise surveys, heatstress surveys, bulk samples, and wipe samples. The first form to be entered for any sample survey is the Industrial Hygiene Survey Cover Sheet. Individual sampling forms are entered after the cover sheet. The remainder of this section shows an example of the dialog between the system and a user in Figure 6-1 when some sample data were entered. Comments on the dialog are shown in the Notes to Figure 6-1. The example shows an air sample and a noise sample entered for Document Number 99877 in the survey S86-0011-BJJ.

6.3 Sample Survey Data Report Options

The sample survey data are available in a variety of reports. The sort/selection criteria for the available reports are shown in Table 6-1.

```
Select SAMPLE SURVEY SURVEY/BOUNDARY NUMBER: 886-0011-BJJ  (1)
    ARE YOU ADDING '886-0011-BJJ' AS A NEW SAMPLE SURVEY (THE 14TH)? Y (YES)
ACTIVITY/COMMAND: MINS  . _      MARE ISLAND NAVAL SHIPYARD  IN:MINS        (2)
        ...OK? YES// _ .(YES)
Select DOCUMENT NUMBER: 99877       (3)
    ARE YOU ADDING '99877' AS A NEW DOCUMENT NUMBER (THE 1ST FOR THIS SAMPLE SURVEY)? Y
    (YES)
DOCUMENT NUMBER: 99877// _
TYPE OF SURVEY: 1
CHOOSE FROM:
        1         INITIAL
        2         ROUTINE
        3         FOLLOW-UP
        4         INVESTIGATION
        5         OTHER
TYPE OF SURVEY: 1  INITIAL
DATE: 9/24  (SEP 24, 1986)
INVESTIGATOR: JACOBS,BEN        (-)      MINSY      00230
ASSISTANT:
LOCATION: MI,BLDG7-- .   (5)                            _ _ .
        1   BLDG700   MI,BLDG700,RM200
        2   BLDG700   MI,BLDG700,RM100
        3   BLDG700   MI,BLDG700,RM300
        4   BLDG700   MI,BLDG700,RM150
        5   BLDG705   MI,BLDG705,RM100
TYPE '^' TO STOP, OR
CHOOSE 1-5: 5  MI,BLDG705,RM100
OPERATION: SHS001  (6)(-)     SHAPING OPS,SANDING,SANDING
SHOP: 9747?
    ONLY SHOPS IN THIS ACTIVITY/COMMAND
SHOP: 964  .
        1   964              WOODWORKERS & INSULATORS SHOP  IN:MINS
        2   964.1            WOODWORKERS  IN:MINS
        3   964.2            PLASTICS SHOP  IN:MINS
        4   964.3            RUBBER SHOP  IN:MINS
        5   964.4            INSULATOR SHOP  IN:MINS
CHOOSE 1-5: 2
SHOP TELEPHONE: 2777
SUPERVISOR: MO??     (8)
        X
SUPERVISOR: AARDVARK,JOE
                    M  609100      221446601    SHOP: 134        (MINS)
        ...OK? YES// _  (YES)
```

FIGURE 6-1

ENTER/EDIT SAMPLES

```
FREQUENCY OF OPERATION: ?   (9)
 ANSWER WITH FREQUENCY OF OPS NAME, OR CODE
CHOOSE FROM:
   2-3 TIME/YEAR
   2-3 TIMES/MONTH
   2-3 TIMES/WEEK
   DAILY
   MONTHLY
   OTHER
   SPECIAL OPERATION
   WEEKLY
   YEARLY
FREQUENCY OF OPERATION: DAILY
DURATION: 2  1-4 HOURS
Select ENGINEERING CONTROLS: VENTILATION
   ARE YOU ADDING 'VENTILATION' AS A NEW ENGINEERING CONTROLS
                      (THE 1ST FOR THIS DOCUMENT NUMBER)? Y

   (YES)
   ADEQUATE: Y  YES
   COMMENT:
   1>_
Select ENGINEERING CONTROLS: _
COMMENTS:
   1>_
SURVEY ACTION ID NUMBER: _    (10)
```

FIGURE 6-1

ENTER/EDIT SAMPLES
(Continued)

You are working in SURVEY/BOUNDARY NUMBER: S86-0011-BJJ
                        CONTROL NUMBER: 99877   (⌣)

SAMPLE CLASS: Y   (12)

                                              •

AIR
DIRECT READING
BULK
WIPE
NOISE
HEATSTRESS
ON FILE:

You are working in SURVEY/BOUNDARY NUMBER: S86-0011-BJJ
                        CONTROL NUMBER: 99877

SAMPLE CLASS: AIR
Select PAGE NUMBER: 1   (13)
    ARE YOU ADDING '1' AS A NEW PAGE NUMBER? Y (YES)
PAGE NUMBER: 1//__
TYPE OF SAMPLE: PER PERSONAL
COLLECTION INSTRUMENT 1: P   (14)
        1   P-1 343434   P-1 MSA AIR SAMPLING PUMP A
        2   P-2 484784   P-2 HIGHBALL AIR SAMPLING PUMP (LF) A
        3   P-3 9389893   P-3 MONTOYA AIR SAMPLING PUMP (HF) A
CHOOSE 1-3: 1   343434
COLLECTION INSTRUMENT 2: __
SAMPLING STRATEGY: FULL
        1   FULL PERIOD CONSECUTIVE
        2   FULL PERIOD SINGLE
CHOOSE 1-2: 1
EMPLOYEE SAMPLED: AARDVARK,JOE   (15)
                  A 609100   221446601   SHOP: 134   (MINS)
        ...OK? YES// _ (YES)

FIGURE 6-1

ENTER/EDIT SAMPLES
(Continued)

6-4

```
RESPIRATOR: MFSO   (16)   HALF FACE, SPECIALITY/OTHER
Select PPE: GLOVES   (17)
     1      GLOVES, COTTON  GC004          GLOVES, COTTON
     2      GLOVES, ELECTRICAL PROTECTION  GEP04 *     GLOVES, ELECTRICAL PROTECTION
     3      GLOVES, NEOPRENE, CHEMICAL RES  GNCR03       GLOVES, NEOPRENE, CHEMICAL RESISTANT
     4      GLOVES, OTHER, CHEMICAL RESIST  GOCR05       GLOVES, OTHER, CHEMICAL RESISTANT
     5      GLOVES, PVA, CHEMICAL RESISTAN  GPCR07       GLOVES, PVA, CHEMICAL RESISTANT
TYPE '-' TO STOP, OR
CHOOSE 1-5: 4  GOCR05
   ADEQUATE: Y  YES
   PPE COMMENT:
   1> _
Select PPE: BOOT   (1-)
     1   BOOTS,   RBST01          RUBBER BOOTS, STEEL TOE, CHEM RESISTANT
     2   BOOTS,   RBST02          RUBBER BOOTS, STEEL TOE, NOT CHEM RESIST
     3   BOOTS,   RBNCR01         RUBBER BOOTS, NOT CHEMICAL RESISTANT
CHOOSE 1-3: 2  RBST02
   ADEQUATE: Y  YES
   PPE COMMENT:
   1> _
Select PPE: COVER   (1-)
     1   COVERALLS, DISPOSABLE W/ HOOD  CDH01       COVERALLS, DISPOSABLE W/ HOOD
     2   COVERALLS, DISPOSABLE W/ HOOD/  CDHB02      COVERALLS, DISPOSABLE W/ HOOD/BOOTS
     3   COVERALLS, DISPOSABLE W/O HOOD  CDH09       COVERALLS, DISPOSABLE W/O HOOD
     4   COVERALLS, HEAT RESISTANT  CHR03           COVERALLS, HEAT RESISTANT
     5   COVERALLS, REUSABLE  CR04                COVERALLS, REUSABLE
CHOOSE 1-5: 5  CR04
   ADEQUATE: Y  YES
   PPE COMMENT:
   1>EAR
   2> _
EDIT Option:
Select PPE: EAR   (1-)
     1    EAR    TFE01          TRIFLE PLANGE EAR PLUGS
     2    EAR    FEP01          FOAM EAR PLUGS
     3    EAR    CFEP01         CUSTOM-FIT EAR PLUGS
     4    EARPLUGS  SFE01          SINGLE FLANGE EARPLUGS
CHOOSE 1-4: 2  FEP01
   ADEQUATE: Y  YES
   PPE COMMENT:
   1> _
Select PPE: _
```

FIGURE 6-1

ENTER/EDIT SAMPLES
(Continued)

```
Select STRESSORS: DUST       (18)
        ...OK? YES//_ (YES)
    ARE YOU ADDING A NEW STRESSORS (THE 1ST FOR THIS PAGE NUMBER)? Y  (YES)
STRESSORS: DUST//_     (19)
RESULT TYPE: 1  TWA         (19)
RESULT: 50               (19)        (19)
UNITS: PPM
Select STRESSORS: -        (19)
Select EMPLOYEE IN AREA: -     (20)

You are working in SURVEY/BOUNDARY NUMBER: S86-0011-BJJ    (21)
                    CONTROL NUMBER: 99877

SAMPLE CLASS: -


AIR
DIRECT READING
BULK
WIPE
NOISE
HEATSTRESS
ON FILE:
   CLASS: A              PAGE: 1
```

FIGURE 6-1

ENTER/EDIT SAMPLES
(Continued)

You are working in SURVEY/BOUNDARY NUMBER: S86-0011-BJJ
                       CONTROL NUMBER: 99877

SAMPLE CLASS: NOISE
Select PAGE NUMBER: 1   ⑬
    ARE YOU ADDING '1' AS A NEW PAGE NUMBER? Y (YES)
PAGE NUMBER: 1// _
TYPE OF SAMPLE: PER PERSONAL
COLLECTION INSTRUMENT 1: NOISE DOSIMETER   ①
    1   2324   N-1 GENRAD NOISE DOSIMETER A
    2   99349   N-2 GENRAD NOISE DOSIMETER A
CHOOSE 1-2: 1 2324
COLLECTION INSTRUMENT 2: _
EQUIPMENT NOISE LABELLED: Y YES
AREA NOISE POSTED: N NO
SAMPLING STRATEGY: F
    1   FULL PERIOD CONSECUTIVE
    2   FULL PERIOD SINGLE
CHOOSE 1-2: 1
EMPLOYEE SAMPLED: AARDVARK,JOE   ⑮
                 M 609100   221446601   SHOP: 134   (MINS)
       ...OK? YES// _ (YES)
Select PPE: EAR
    1   EAR   TFE01   TRIFLE PLANGE EAR PLUGS
    2   EAR   FEP01   FOAM EAR PLUGS
    3   EAR   CFEP01   CUSTOM-FIT EAR PLUGS
    4   EARPLUGS SFE01   SINGLE FLANGE EARPLUGS
CHOOSE 1-4: 2 FEP01
  ADEQUATE: _
  PPE COMMENT:
  1> _
Select PPE: _
LEQ DBA: 67
LEQ PEAK: 96
PERCENT EXPOSURE: 78
Select TIME OF DAY: 1205   ㉒
TIME OF DAY: 1205// _
RESULT: 72
UNITS: DBA
     TIME: 12:05 72 DBA   ㉒
Select TIME OF DAY: 1317
TIME OF DAY: 1317// 798 ????
    Answer with a time in military time format
TIME OF DAY: 1317// _
RESULT: 78
UNITS: DBA
     TIME: 12:05 72 DBA
     TIME: 13:17 78 DBA
Select TIME OF DAY: _
NOISE SOURCE: SANDER
NOISE RADIUS: 6 FT.
Select EMPLOYEE IN AREA: _

You are working in SURVEY/BOUNDARY NUMBER: S86-0011-BJJ   ☺
                       CONTROL NUMBER: 99877

SAMPLE CLASS: _
Select DOCUMENT NUMBER: _
Select SAMPLE SURVEY SURVEY/BOUNDARY NUMBER: _

                        FIGURE 6-1

                   ENTER/EDIT SAMPLES
                      (Concluded)

1. The Survey/Boundary Number is entered as the ID field of the sample su-vey record. This number can be the same as the survey number of a walkthrough or a boundary ID number.

2. The Activity/Command prompt wants you to reply with an Agency abbreviation or name (Primer, Section 7.2).

3. The Document Number field is a free text multiple. A document number must be five numeric characters.

4. The Investigator and Assistant fields are pointers to the Survey Monitor file. The format of the response is lastname,firstname. If the Investigator is a new entry into the Survey Monitor file, you will be given additional prompts to enter data about the new Survey Monitor. An example of these additional prompts is shown in the walkthrough data entry sequence.

5. Location is a pointer to the Location file (Primer, Section 7.4).

6. Operation is a pointer to the Operation file. This is a standard lookup as discussed in Section 6 of the Primer.

7. Shop is a pointer to the Agency Unit file. You must select a shop that is contained in the agency you have previously entered (Primer, Section 7.2).

8. Supervisor is a pointer to the Employee file. You must select an employee who is currently in that file (Primer, Section 7.3).

9. Frequency of Operation is a pointer to the Frequency of Ops file. Since the file is small, you can see all possible entries by entering a "?".

10. Survey action ID number is handled in this entry sequence as it was during walkthrough data entry. See Section 5.2 of this document for an example of how to enter a survey action while in the middle of this data entry sequence.

11. Once you have entered the data from the Industrial Hygiene Survey Cover Sheet, you are shown the Survey/Boundary Number and the Document Number for the areas of the file you are working in. You must check these against your input documents to ensure that the remaining data you enter belong in this part of the file.

12. Sample Class is the prompt where you identify which kind of sample collection sheet you are working from. As you can see in the example, when a "?" is entered, you are shown a list of possible choices. These correspond to the forms you are working from in entering data.

13. Page Number is a multiple field because you may have several pages of sample forms to enter for one cover sheet.

14. The Collection Instrument field is a pointer to the Collection Instrument file. You may not enter a new instrument while entering sample data.

15. The Employee Sampled field is a pointer to the Employee file (Primer, Section 7.3). There can only be one employee sampled on a page.

16. The Respirator field is a pointer to the Respirators file.

17. PPE is a pointer multiple. You may enter as many items as necessary so long as each is already found in the Personal Protective Equipment file. For each PPE entry you are asked to say whether it is adequate (Yes or No), and optionally you may enter a comment.

18. Stressors is a multiple pointer to the Stressor file (Primer, Section 7.5).

19. Once you have selected a stressor, you enter the result type, result, and units. If you need to enter a second (or third, or fourth) set of results for the same stressor, don't forget to enter the stressor name in quotes ("name") to make a duplicate entry in the multiple.

20. Employee in Area is a multiple pointer to the Employee file. You may enter as many employees in area as you require. If you enter an Employee in Area, you will be asked for Operation and Respirator. These fields are still pointers to their respective files.

21. Notice that when you finish a page you are again shown the Survey/ Boundary Number and the Document Number. Don't forget to check that you are working in the correct area of the file.

22. Though you may enter several different sample classes, the only one that is not straightforward, once you understand the entry of an Air Sample page, is Noise Survey. The area of the Noise Survey data that is complicated is the Sound Level Meter sampling data. Each line of this data is entered as a separate entry in a multiple field called Time of Day. Refer to the example to see how two lines were entered. The Time of Day is to be entered in military time format with or without the colon (:).

TABLE 6-1
SAMPLE SURVEY DATA REPORT OPTIONS

Report Option	Sort/Selection Criteria

Employee Samples Reports	1. Employee Name
	    Sampled/In Area
	        Stressor Name
	            Date Sampled
	                Sample Class

	2. Employee Name
	    Stressor Name
	        Date Sampled

	3. Stressor Name
	    Date Sampled
	        Employee Name

	4. Employee Agency
	    Employee Shop
	        Employee Name
	            Date Sampled
	                Stressor Name

Summary Report of Samples	Stressor Name
	    Location
	        Operation Code
	            Date Sampled

Sample Summary Report by Monitor	1. Standard Report - Month/Year
	2. Investigator Name Date Sampled
Sample Summary Report By Stressor	1. Standard Report - Month/Year

	2. Date Sampled
	    Stressor Name
	        Location

Detailed Samples Report	1. Activity
	    Location
	        Date Sampled

SAMPLE SURVEY DATA REPORT OPTIONS
(Concluded)

                                          2. Activity
                                               Shop Code
                                                    Stressor Name
                                                         Date Sampled

                                          3. Survey/Boundary Number
                                               Employee Name

                                          4. Location
                                               Stressor Name
                                                    Date Sampled

                                          5. Operation Code
                                               Stressor Name
                                                    Date Sampled

Detailed Bulk/Wipe Samples Reports   1. Activity
                                               Location
                                                    Date Sampled

                                          2. Activity
                                               Shop Code
                                                    Stressor Name
                                                         Date Sampled

                                          3. Location
                                               Stressor Name
                                                    Date Sampled

                                          4. Operation Code
                                               Stressor Name
                                                    Date Sampled

Overexposure/Over MSAL Report   Beginning Month,Day,Year
     by Operation   Ending Month,Day,Year
                                                    Site
                                                         Stressor Name
                                                              Operation Code

Overexposure/Over MSAL Report   Beginning Month,Day,Year
     by Location   Ending Month,Day,Year
                                                    Site
                                                         Stressor Name
                                                              Location

6-12

7.0 PERSONAL EXPOSURE ASSESSMENT PROCESSES

7.1 Introduction to Personal Exposure Assessment Processes

Exposure measurements collected in the workplace are associated with two types of employees--persons actually monitored and persons in the area during a monitoring event for whom the measurement is considered to be representative. In either case, the evaluation of that measurement against the legal and recommended limits for exposure to the specific stressor (known in the Stressor file) will be carried out by the system. The process of compiling new over MSAL's causes the system to evaluate each newly entered stressor result against the appropriate limits and to create an Over MSAL Results file entry if any limit has been met or exceeded. Once the the user prints the newly compiled over MSAL results, they can be reviewed by the IH staff to determine what action should be taken. Each case of an over MSAL or overexposure has already been automatically processed through a part of the Medical Exam Scheduling (MES) module. (See the MES Operators' Guide for a discussion of the automated actions.) For any entry on the Over MSAL List, the user may decide to send an Exposure Notice to the employee. This is done by using the Prepare Exposure Notices option to enter the data that controls the printing of the Exposure Notices.

7.2 Compile New Over MSAL's

The compile of new MSAL's evaluates all data entered since the last compile was run. The system tells you when the last compile was run, and asks you whether you wish to do a new compile. If you have entered data since the date that is shown to you, you should answer "Y" to do a new compile. If, however, you see that the date you are shown for the last compile is very recent, and you do not think there has been any data entered since that time, you may wish to answer "N" for no new compile.

A compile will usually take a lot of time. You should plan to run these compiles often so that the system does not have to review too many records in a single run of the compile. You may also find it convenient to run this option when the system is not being used very heavily, e.g., at the end of the day after data entry is run, and most people have left. As the system goes through the data on file, it displays each date on which sample data is entered when it begins to evaluate the data. If nothing seems to be happening, do not try to interrupt the job, but ask your system manager to check. You will have to start all over again if you stop in the middle of a compile, so you aren't really saving time. The system tells you when the compile is complete. Be sure you wait for it to be complete before you try to print reports.

7.3 Print Over MSAL List

The Print Over MSAL List option allows you to select the contents of the report that is produced. You should establish a routine to print the Over MSAL List right after a compile of new over MSAL´s is run. To show all the newly compiled Over MSAL´s on the list, you use the Date Compiled sort/selection field and answer "T" or today´s date for the Start With Date Compiled prompt. You should also not answer anything to the other sort/selection fields to print a routine report. The option allows you to sort/select on Date Compiled, Employee Name, and Stressor Name. You should only use this sort/selection capability, however, for special queries.

7.4 Prepare Exposure Notices

Once the Over MSAL list is reviewed, an Exposure Notice can be set up for any exposure reported on the list. To do this, you will need to know which of the Exposure Notices is to be printed. An example of the dialog between the system and the user in preparing exposure notices follows in Figure 7-1, showing us setting up a letter to print for a methyl ethyl ketone exposure on Leslie Young. Comments on the input sequence appear in the Notes to Figure 7-1.

7.5 Annotate Over MSAL Record

The use of this option is very simple. If you do not wish to print an exposure notice for an item that appears on the Over MSAL List but would like to document in the system why you choose not to print one, you can annotate the entry in the file with this option.

7.6 Printing Exposure Notices

There are two options that allow you to print Exposure Notices. Table 7-1 shows the sort/selection criteria available with each of them.

```
Select OVER MSAL RESULTS NAME: 86-1000    ①
    1    86-1000001    YOUNG,LESLIE    METHYL ETHYL KETONE
    2    86-1000002    YOUNG,LESLIE    METHYL CHLORIDE
    3    86-1000003    YOUNG,LESLIE    BENZENE
    4    86-1000004    AARDVARK,JOE    NICKEL CARBONYL
    5    86-1000005    AARDVARK,JOE    ASHPALT FUMES
TYPE '^' TO STOP, OR
CHOOSE 1-5: 1
FORM LETTER CODE: 200E    ②
PRINT DATE: 1  (OCT 10, 1986)    ③
Select OVER MSAL RESULTS NAME:
```

FIGURE 7-1

PREPARE EXPOSURE NOTICES

NOTES ON PREPARE EXPOSURE NOTICES INPUT SEQUENCE

1. The ID field for this file is the assigned Over MSAL record number which is shown on the left hand column of the Over MSAL List for each entry.

2. The Form Letter Code is a pointer to the Exposure Notices file. You may not add a new notice to the file while preparing exposure notices for printing.

3. You are asked a print date for when you wish to print the notice you are setting up. You will be using this date as a sort/selection field when actually printing the notices. You may think of this date as a batching mechanism by which you may get a number of notices to print all in the same print run.

TABLE 7-1
EXPOSURE NOTICE PRINT OPTIONS

Report Option   Sort/Selection Criteria

Exposure Notice Print   Exposure Notice Form Letter Code
                                           Print Date

Print Exposure Notices by Employee   Exposure Notice Form Letter Code
                                           Employee Name
                                               Print Date

8.0 VENTILATION SURVEY DATA PROCESSES

8.1 Introduction to Ventilation Survey Data Processes

The data collected in ventilation surveys is different enough from other survey data that it is stored in a separate file. Whether the ventilation survey data was collected as part of a walkthrough or a sample survey, the data is entered into the Ventilation Survey file. The processes to input and report ventilation surveys are fairly simple and straightforward once you understand the Ventilation Survey Form and how it is used.

8.2 Ventilation Survey Entry

The Ventilation Survey Entry process is used to enter data from the Ventilation Survey form. Each Ventilation Survey file record consists of a unique document number for a survey number. An example dialog between the system and the user is shown in Figure 8-1, with commentary on the interaction in the Note following the figure. The example shown is for one document number within a survey, showing the data entered for one system ID and one source ID. Multiple measurement types are entered in the example.

8.3 Ventilation Survey Reports

The ventilation survey data may be printed using a variety of sort/ selection criteria. These criteria are the following:

1. Activity, Location, Date of Survey

2. Activity, Date of Survey, System ID, Source ID

3. Activity, Location, Investigator Name, Date of Survey

Select SURVEY NUMBER ID NUMBER: S86-0034-BJ ①
    ARE YOU ADDING 'S86-0034-BJ' AS A NEW SURVEY NUMBER (THE 4TH)? Y (YES)

Select VENTILATION SURVEY DOCUMENT NUMBER: 67655 ②
    ARE YOU ADDING '67655' AS A NEW VENTILATION SURVEY? Y (YES)
SURVEY/BOUNDARY NUMBER: S86-0034-BJ//_
ACTIVITY/COMMAND: MINS   MARE ISLAND NAVAL SHIPYARD IN:MINS ③
        ...OK? YES//_ (YES)
TYPE OF SURVEY: INITIAL
DATE: 9/23/86 (SEP 23, 1986)
INVESTIGATOR: JAC,B JACOBS,BEN   MINSY   00230 ④
ASSISTANT: _
LOCATION: MI.BLDG750   ⑤
    1   BLDG750   MI.BLDG750.RM201
    2   BLDG750   MI.BLDG750.RM200
CHOOSE 1-2: 1 MI.BLDG750.RM201
OPERATION: TA001   THERMAL INSULATION,ASBESTOS,ANALYTICAL LAB ⑤
SHOP: 926   WELDING SHOP IN:MINS ⑤
        ...OK? YES//_ (YES)
SHOP TELEPHONE: _
SUPERVISOR: KAR,K KARPEN,KEITH ⑤
                  M 4477668   S43229876   SHOP: 931   (MINS)
        ...OK? YES//_ (YES)
COLLECTION INSTRUMENT 1: V-1 94034 ⑤   V-1 KURTZ HOT WIRE A
        ...OK? YES//_ (YES)
COLLECTION INSTRUMENT 2: _
SURVEY COMMENTS:
  1> _
SYSTEM ID: B-221 ⑥
    ARE YOU ADDING 'B-221' AS A NEW VENT SYSTEM (THE 3RD)? Y (YES)
SYSTEM DESCRIPTION: GENERAL ELEC FAN
SYSTEM TYPE: ?
CHOOSE FROM:
        P   PERMANENT
        T   TEMPORARY
SYSTEM TYPE: P PERMANENT
SYSTEM STATUS: ?
CHOOSE FROM:
        S   SATISFACTORY
        U   UNSATISFACTORY
        N   N/A
SYSTEM STATUS: S SATISFACTORY
VENTILATION SOURCE ID: 06A ⑦
    ARE YOU ADDING '06A' AS A NEW VENT SOURCE? Y (YES)
HOOD DESCRIPTION: APPRENTICE BOOTH 6A
VENTILATION SOURCE TYPE: P PERMANENT
VENTILATION SOURCE STATUS: S SATISFACTORY ⑧
BLAST GATE/DAMPER POSITION: 1/2 OPEN
DUCT DIAMETER: 4 SQ IN
FACE/SLOT AREA: _

FIGURE 8-1

VENTILATION SURVEY ENTRY

8-2

```
Start New Measurement Type
   DUCT                        SLOT
   FACE                        CAPTURE
   STATIC PRESSURE

Select MEASUREMENT TYPE: DUCT  (DUCT)            (9)
   ARE YOU ADDING 'DUCT' AS A NEW MEASUREMENT TYPE (THE 1ST FOR THIS VENTILATION SURVEY)?
   (YES)

Start New Measurement Number

Select MEASUREMENT NUMBER: 1  (FIRST)            (10)
   ARE YOU ADDING '1' AS A NEW MEASUREMENT NUMBER (THE 1ST FOR THIS MEASUREMENT TYPE)? Y
   (YES)
AVERAGE VELOCITY: 200 FPM

Start New Measurement Number

Select MEASUREMENT NUMBER: _
VELOCITY STANDARD: 100 FPM
FLOW RATE AND UNITS: 150 CFM
FLOW RATE STANDARD: 150 CFM

Start New Measurement Type
   DUCT                        SLOT
   FACE                        CAPTURE
   STATIC PRESSURE

Select MEASUREMENT TYPE: FACE  (FACE)  (9)
   ARE YOU ADDING 'FACE' AS A NEW MEASUREMENT TYPE (THE 2ND FOR THIS VENTILATION SURVEY)?
   (YES)

Start New Measurement Number

Select MEASUREMENT NUMBER: 1  (FIRST)
   ARE YOU ADDING '1' AS A NEW MEASUREMENT NUMBER (THE 1ST FOR THIS MEASUREMENT TYPE)? Y
   (YES)
AVERAGE VELOCITY: 250 CFM

Start New Measurement Number

Select MEASUREMENT NUMBER: 1  1
AVERAGE VELOCITY: 250 CFM// 250 FPM

Start New Measurement Number

Select MEASUREMENT NUMBER: _
VELOCITY STANDARD: 200 FPM
FLOW RATE AND UNITS: 150 CFM
FLOW RATE STANDARD: 150 CFM
```

FIGURE 8-1

VENTILATION SURVEY ENTRY
(Continued)

8-3

Start New Measurement Type
    DUCT   SLOT
    FACE   CAPTURE
    STATIC PRESSURE   •

Select MEASUREMENT TYPE: CAPTURE:CAPTURE   (9)
    ARE YOU ADDING 'CAPTURE' AS A NEW MEASUREMENT TYPE (THE 3RD FOR THIS VENTILATION SURVEY)?
    (YES)

Start New Measurement Number

Select MEASUREMENT NUMBER: 1 (FIRST)   (10)
    ARE YOU ADDING '1' AS A NEW MEASUREMENT NUMBER (THE 1ST FOR THIS MEASUREMENT TYPE)? Y
    (YES)
AVERAGE VELOCITY: 100 FPM
DISTANCE: 4 IN

Start New Measurement Number

Select MEASUREMENT NUMBER: _   (10)
VELOCITY STANDARD: 25 FPM
FLOW RATE AND UNITS: 80 CFM
FLOW RATE STANDARD: 120 CFM

Start New Measurement Type
    DUCT   SLOT
    FACE   CAPTURE
    STATIC PRESSURE

Select MEASUREMENT TYPE: _
Select SURVEY NUMBER ID NUMBER: _

FIGURE 8-1

VENTILATION SURVEY ENTRY
(Concluded)

8-4

NOTES ON VENTILATION SURVEY ENTRY SEQUENCE

1. First entry is for the Ventilation Survey Number. In this case we have entered a new survey: "86-0034-BJ".

2. There may be multiple document numbers for a survey. The example shows a new document number being entered.

3. The Activity/Command field is a pointer to the Agency Unit file. It must be an agency rather than a subunit of an Agency (Primer, Section 7.2).

4. The Investigator field is a pointer to the Survey Monitor file. This field is handled the same way for walkthrough survey entry and for sample data entry. This example shows entry of an investigator that was found in the file. For an example of the entry of a new investigator, see the example in Section 5 of this guide.

5. The Location, Operation, Shop, Supervisor, and Collection Instrument fields are pointer fields that are discussed in Section 5 of this document under the Walkthrough Data Entry process.

6. The System ID field is a pointer to the Ventilation System file. Each ventilation system in a facility must have a unique ID assigned. Pointer fields are discussed in the Primer in Section 4.7. The System ID field is a multiple, so that you may record more than one system for a survey.

7. The Ventilation Source ID is a pointer to the Ventilation Source file. Within a ventilation system, IDs assigned to each source must be unique. The Ventilation Source ID field is a multiple so that you may record survey results for multiple sources within a system for a survey.

8. Once you have entered a status for the system and the source, you are not obligated to enter the rest of the data into the system. This will depend on the procedures adopted at your facility. If you wish to complete entry after specifying the status of the source, you may up-arrow at this point to continue with the entry process.

9. There are five measurement types that may be recorded in a ventilation survey: duct, face, static pressure, slot, capture. Each measurement type corresponds to a column on the Ventilation Survey form. You only need to enter the types for which data appear on the form. In our example, we entered duct, face, and capture data. The data required for each type are essentially the same.

10. As you can see from a Ventilation Survey form, you may have up to four measurements in a column. The Measurement Number field is a multiple that allows you to enter as many measurements as appear on the form. In our example we have only entered one measurement for each type but, had we needed to enter a second or third, we would have done so by entering a new measurement number.

9.0 MATERIAL INVENTORY SURVEY PROCESSES

9.1 Introduction to Material Inventory Survey Processes

In some facilities inventories are conducted of the materials in the shops and in general work areas. When this is the case, the Exposure module can handle the data from these surveys by the options for Material Inventory data. To be able to enter data for a material, it must be one defined in the Products file. The Material Inventory surveys are stored in the Walkthrough file.

9.2 Material Inventory Entry

Material Inventory Entry is much like Walkthrough Survey Entry. You will notice from the example dialog which follows that you are not asked all of the questions that you are asked for a walkthrough. Figure 9-1 is an example of the dialog from a simple entry of a material inventory conducted in one location, where two materials were found.

9.3 Material Inventory Report Options

The material inventory reports options have specific criteria by which the contents of the reports may be selected. The sort/selection criteria are shown in Table 9-1.

```
Select MATERIAL INVENTORY SURVEY NUMBER: M86-0023-BJ
    ARE YOU ADDING 'M86-0023-BJ' AS A NEW WALKTHROUGH? Y  (YES)
SURVEY NUMBER: M86-0023-BJ//_
FROM DATE: 7/8/86  (JUL 8, 1986)
TO DATE: 7/15/86  (JUL 15, 1986)
INVESTIGATOR: JAC,B  JACOBS,BEN         MINST      00230
ASSISTANT: _
SURVEY COMMENT:
  1> _
Select LOCATION: MI,BLDG750
     1   MI,BLDG750,RM200
     2   MI,BLDG750,RM201
CHOOSE 1-2: 1
   ARE YOU ADDING '31' AS A NEW LOCATION (THE 1ST FOR THIS WALKTHROUGH)? Y
  (YES)
     SHOP: 964
     1   964            WOODWORKERS & INSULATORS SHOP  IN:MINS
     2   964            WOODWORKING SECTION  IN:NASNI
     3   964.1            WOODWORKERS  IN:MINS
     4   964.1            WOODWORKING SHOP  IN:NASNI
     5   964.2            PLASTICS SHOP  IN:MINS
TYPE '^' TO STOP, OR
CHOOSE 1-5: 5
    Select MATERIAL PRODUCT: FORMULA 409
    ARE YOU ADDING A NEW MATERIAL PRODUCT (THE 1ST FOR THIS OPERATION)? Y  (YES)
       QUANTITY: 6
       QUANTITY UNITS: 12 BOTTLE CASES
    Select MATERIAL PRODUCT: EARL'S MOTOR OIL
    ARE YOU ADDING A NEW MATERIAL PRODUCT (THE 2ND FOR THIS OPERATION)? Y  (YES)
       QUANTITY: 2
       QUANTITY UNITS: 50 GAL DRUMS
    Select MATERIAL PRODUCT: _
Select LOCATION: MI,BLDG750,RM200// _

Select MATERIAL INVENTORY SURVEY NUMBER: _
```

FIGURE 9-1

MATERIAL INVENTORY ENTRY

9-2

TABLE 9-1
MATERIAL INVENTORY REPORTS OPTIONS

Report Option	Sort/Selection Criteria
Material Inventory Report (by Survey Number)	Survey Number From Date
Material Inventory Report (by Location)	From Date Location
Material Location List	From Date

10.0 SURVEY ACTIONS DATA PROCESSES

10.1 Introduction to Survey Actions Data Processes

Survey Actions are notes that an IH wishes to make about some follow-up activity to be performed. They can be entered during walkthrough data entry or through the Survey Action Entry process.

A Survey Action is expected to be followed up until it is complete. To mark the survey action as complete, use the Survey Action Completion process.

10.2 Survey Action Entry

Although the capability exists to enter a survey action while entering walkthrough data, sometimes there is a need to enter a survey action independent of any other prompt sequence. To do this, you use the Survey Action Entry option. An example of the dialog between the system and user follows in Figure 10-1, with additional explanation in the Note following. The example shows the entry of a survey action to check on the ordering of softer toilet paper.

10.3 Survey Action Completion

When a survey action has been taken and there is no further need to be reminded to follow up, the system needs to change the status of the survey action to "COMPLETED". This is done when a user enters a Survey Action Completion transaction. The dialog between the system and the user in entering this transaction is self-evident.

10.4 Survey Action Reports

Table 10-1 shows the sort/selection criteria for each of the Survey Action Reports options.

10-1

```
SURVEY ACTION ID NUMBER: NEW  (1)
    ARE YOU ADDING 'NEW' AS A NEW SURVEY ACTION? Y  (YES)
LOCATION: SD,B                                        (2)
    1   B100    SD,B100                        .
    2   B900    SD,B900,R100,POWDER BOX
    3   BL100   SD,BL100,R10,CARPENTER SHOP
    4   BL100   SD,BL100,R10
    5   BL106   SD,BL106,R100,HEAD
TYPE '-' TO STOP, OR
CHOOSE 1-5: 5  SD,BL106,R100,HEAD
OPERATION: N/A       NONE,NONE,NO SPECIFIC OPERATION  (3)
SHOP: MINS           MARE ISLAND NAVAL SHIPYARD  IN:MINS  (4)
        ...OK? YES//_  (YES)
INVESTIGATOR: JAC,B   JACOBS,BEN        MINSY    00230  (5) (6)
DESCRIPTION:
    1>GET SOFTER TOILET PAPER ORDERED FOR THE HEAD.
    2>_
EDIT Option: _
FOLLOWUP DATE: T+14  (OCT 23, 1986)
    SURVEY ACTION NUMBER ASSIGNED: 3-86
SURVEY ACTION ID NUMBER:
```

FIGURE 10-1

SURVEY ACTION ENTRY

NOTES ON SURVEY ACTION ENTRY SEQUENCE

1. To enter a new survey action, always enter "NEW." The system assigns survey action numbers to each survey action as it is entered. If you wish to edit a survey action you may look it up by its assigned number. Be sure to remember to write down the number of the survey action as you Enter it.

2. The location field for a survey action is a pointer to the Location file (Primer, Section 7.4).

3. The Operation field is a pointer to the Operation file. You may not enter new Operations while entering survey actions.

4. The Shop field is a pointer to the Agency Unit file. You may not enter new shops while entering survey actions (Primer, Section 7.2).

5. The Investigator field is a pointer to the Survey Monitor file.

6. The Description field is your note about what needs to be done. It is a word processing field and can be as long as necessary for you to describe the action you wish to be reminded of.

TABLE 10-1
SURVEY ACTION REPORTS OPTIONS

Report Option   Sort/Selection Criteria

Survey Action Report   Shop

Overdue Survey Actions Report   Follow-up Date
                                           Investigator Name
                                               Agency Abbreviation

11.0 SAMPLE TRACKING PROCESSES

11.1 Introduction to Sample Tracking Processes

Some facilities expressed a desire to use the system to keep track of the samples that are sent to outside laboratories for analysis. The Sample Tracking processes offer this capability. For each sample that is sent outside for analysis, an entry is created in the Lab Tracking file by entering a Send Out Sample transaction. When the results are returned, a Receive Sample transaction marks the entry as returned, which removes that sample from any subsequent Overdue Samples or Outstanding Samples Reports. If your facility decides that it would like to use the system to get an idea of the costs associated with the sample analyses that are done outside, you may enter cost data at the time you receive the sample results.

11.2 Send Out Samples

For each sample that is being sent out of the facility for analysis, you are to enter a Send Out Sample transaction. An example of the dialog between a user and the system is shown in Figure 11-1 for a sample being sent out that is expected to be resulted within 24 hours. Notes on the interaction follow the Figure.

11.3 Receive Sample

When sample results are returned from the laboratory, it is necessary to mark the sample as being "RETURNED". To do this, you use the Receive Sample option. Once you have selected the sample that is returned, all interaction with the system is self-evident.

11.4 Sample Tracking Report Options

Table 11-1 shows the sort/selection criteria for each of the sample tracking report options.

11-1

```
Select LAB TRACKING SAMPLE NUMBER: J8600452    (1)
      ARE YOU ADDING 'J8600452' AS A NEW LAB TRACKING (THE 2ND)? Y  (YES)
SAMPLE NUMBER: J8600452//_
SURVEY NUMBER: 286-0004-MN    (2)
LABORATORY: TEST LAB
SAMPLE PRIORITY: ?
CHOOSE FROM:
         1        24 HOUR TURNAROUND
         2        48 HOUR TURNAROUND
         3        ROUTINE
         4        7 DAYS
         5        OTHER
SAMPLE PRIORITY: 1  24 HOUR TURNAROUND
ANALYSIS REQUESTED: _
DATE SAMPLE SENT OUT: T  (OCT 9, 1986)
DATE SAMPLE RESULTS EXPECTED: T+1  (OCT 10, 1986)    (3)
SAMPLE REPORT DESTINATION: BEN'S DESK
Required field missing, multiple entry not fully processed,
or field did not pass condition check.
Enter 'C' or null to continue processing this entry
        or enter 'D' to delete this entry: C//_
ANALYSIS REQUESTED: COMPLETE ASBESTOS COUNT
DATE SAMPLE SENT OUT: OCT 9,1986//_
DATE SAMPLE RESULTS EXPECTED: OCT 10,1986//_
SAMPLE REPORT DESTINATION: BEN'S DESK//_

Select LAB TRACKING SAMPLE NUMBER: _
```

FIGURE 11-1

SEND OUT SAMPLES

11-2

NOTES ON SEND OUT SAMPLES INPUT SEQUENCE

1. The Sample Number field in this file is a free text field. Your facility will assign sample numbers to the samples as they are collected.

2. Unlike most places in the EE module, when a Survey Number is asked for, there is no lookup in any file associated with the Survey Number field here. You should treat this field as free text.

3. The Sample Report Destination field is a free text description of who is to get the results of the sample after they are returned. Usually this should be a person who is waiting for the results of the sample he or she has collected.

TABLE 11-1
SAMPLE TRACKING REPORT OPTIONS

Option	Sort/Selection Criteria
Overdue Samples Report	Shop
Outstanding Samples Report	Follow-up Date Investigator Name Agency Code

12.0 MONITORING PLANNING SUPPORT PROCESSES

12.1 Introduction to Monitoring Planning Support Processes

Support for the planning of monitoring activities in the shipyard is provided by the EE module in two ways. The module keeps a record of the date on which each location/operation in the shipyard was last inspected (walked through) and also maintains a file of the desired frequency for conducting walkthrough inspections in the location/operation. With these data it produces a report that lists the due dates for walkthrough inspections. A second part of the same functionality produces an overdue list for walkthroughs.

The second type of support for monitoring planning is directed specifically at the collection of samples. The IH professional establishes sampling goals in response to the requirements of OPNAVINST 5100.23B. These goals are incorporated in the workplace monitoring plan on Form 5100/14. If these goals are entered into the EE module, the Sampling Progress Report, which counts the actual number of samples collected and calculates the percent complete against the established goals, can be created.

To establish sampling goals for specific stressors in the work environment, the IH is assisted by the Exposure Risk Report. From the data collected during walkthroughs this report shows the exposure risk, operation frequency, operation duration, and number of persons involved in the operation at a specific location. Since sampling goals may be set for an operation regardless of the location in which it is performed, the IH can review the Exposure Risk Report from all of the surveyed locations to attempt to determine the appropriate number of samples to collect.

12.2 Exposure Risk Report

You must tell the system whether you want the Exposure Risk Report to be produced by location or operation before you have a chance to specify further the sort/selections. The sort/selection fields for this report are the following:

o By Location: Location, Operation Code, From Date of Survey

o By Operation: Operation Code, Location, From Date of Survey

12.3 Walkthrough Frequency Entry

You do not need to establish walkthrough frequencies for work environments (locations/operations) that you wish to reinspect annually. The module automatically sets the frequency to 12 months. When you prepare to set a frequency other than 12 months for an environment, you may select whether you want the system to walk you through the environments on file by survey number, location, or operation. Once you make this selection, the data entry is quite straightforward, so no example is included here.

12.4 Enter Sampling Goals

When identifying sampling goals, the IH may decide to set goals for a location, an operation, or a combination of location/operation. In entering the goals into the system, however, there always must be both a location and an operation identified for a set of goals. To set goals for a location regardless of operation, you use the operation "N/A" (for No Specific Operation). To set goals for an operation regardless of the location, you must identify at least the site portion of the location. An example of the dialog between the user and the system is shown in Figure 12-1 with discussion of the points that warrant clarification in Notes following. In the example we have set goals for benzene samples to be collected for analytical lab operations in Mare Island's Building 750, Room 200.

12.5 Sampling Progress Report

The Sampling Progress Report has two options: to produce the report for all locations/operations for which goals have been set, or to use the sort/selection parameters to limit the contents of the report.

The first prompt you will be given after choosing the Sampling Goals Report option allows you to tell the system whether you wish to select the contents of the report. The default is to produce the entire report for all goals. If you choose to select the contents of the report, you will be given three sort/selection prompts: location, operation, and stressors. You may respond to these prompts as described in the Primer, Section 9.2, to limit the contents of the report you produce.

```
Select SAMPLING GOALS LOCATION: MI,BLDG750 (1)
     1   MI,BLDG750,RM200
     2   MI,BLDG750,RM201
CHOOSE 1-2: 1
   ARE YOU ADDING A NEW SAMPLING GOALS (THE 1ST)? Y (YES)
LOCATION: MI,BLDG750,RM200// _
Select OPERATION: TA001        THERMAL INSULATION,ASBESTOS,ANALYTICAL LAB (2)
   ARE YOU ADDING A NEW OPERATION (THE 1ST FOR THIS SAMPLING GOALS)? Y (YES)
   OPERATION: TA001// _
   Select STRESSORS: BENZ (3)
     1   BENZENE
     2   BENZIDINE
     3   BENZOYL PEROXIDE
     4   BENZYL CHLORIDE
     5   BENZENE HEXAHYDRIDE  CYCLOHEXANE
TYPE '^' TO STOP, OR
CHOOSE 1-5: 1
   STRESSORS: BENZENE// _
   ANNUAL GOAL: 50
   OVERALL GOAL: 210
   SAMPLE EVERY n DAYS: 30
   MAN HOURS MONITORING: 30
  Select STRESSORS: _
Select OPERATION: _


Select SAMPLING GOALS LOCATION: _
```

FIGURE 12-1

ENTER SAMPLING GOALS

1. The Sampling Goals Location field is a multiple pointer to the
    Location file (Primer, Section 7.4).

2. The Operation field is a multiple within the Location multiple.
    Refer to the Primer, Section 8, for a discussion of multiples.

3. The Stressors field is a multiple pointer to the Stressor file
    (Primer, Section 7.5). You may enter goals for each stressor you
    identify.

12.6 Walkthroughs Due Report

To produce the Walkthroughs Due Report the system must review all walkthrough records that are on file to determine the last walkthrough dates. You are prompted after selecting the report option to tell the system whether you wish to reevaluate the walkthrough records on file. You are told when the last compile of these data was run. If you know that no walkthrough data have been entered or deleted since that date, you should not recompile. The system expects that most often you will wish to recompile, and the default for this prompt is "Y" (YES to recompile). After the choice has been made to compile or not, you are given two sort/selection prompts. The Location:Site (Site of the Location) prompt is a normal prompt you will find discussed in the Primer, Section 9.2. The second prompt is GO TO DATE NEXT SURVEY. The system chooses the beginning date of "today" for this sort/selection range and only requires you to tell the end of the date range to report.

12.7 Overdue Walkthroughs Report

As discussed above in reporting Walkthroughs Due, before the system begins to report walkthroughs overdue, it must review the Walkthrough Data file. You will be given the choice of whether to recompile or not. If you have just printed a Walkthroughs Due Report, you should not recompile before printing this report. The only sort/selection choice you are given is Location:Site. This prompt asks you to select the sorting range for the site portion of the locations that are to be included on the report.

13.0 EQUIPMENT DATA PROCESSES

13.1 Introduction to Equipment Data Processes

The Equipment Data Processes manage the directory of collection instruments in a facility. Any instrument used to collect samples or measure heatstress or noise must be included in the directory. The system also provides the capability to record when instruments have been sent for calibration and when the next calibration is due for an instrument. You neither have to enter calibration data nor use the module to tell you when calibration is due for an instrument.

13.2 Enter/Edit Collection Instrument

The Enter/Edit Collection Instrument option creates and/or modifies the record for a collection instrument. Each instrument used in the collection of sample survey data must be on file in the system because the sample data points to the Collection Instrument file. You can not LAYGO into the Collection Instrument file during sample data entry. Besides being the dictionary of collection instruments for sampling data, the Collection Instrument file has the capability to assist you in keeping track of calibrations on each instrument. This is an optional feature of the system, and to use it you must record a next calibration date for each instrument. Figure 13-1 shows an example of the dialog between the system and the user. Notes following to Figure 13-1 explain the interaction. This example is for a MSA model 8-101 air sampling pump which is known as "G-1" in the local OSH shop.

13.3 Inactivate an Existing Instrument

If a collection instrument has been inactivated in error, or is to be put back in service after having been inactivated, you may use this function to delete the Inactive status. The input sequence for this function is straightforward and, therefore, is not discussed in detail here.

13.4 Send Out Instrument for Calibration

When an instrument is removed from its usual storage place to be sent out for its routine calibration check, a record of its removal is made in the Collection Instrument file. Once you identify the instrument to be sent, the prompt sequence is straightforward.

Select COLLECTION INSTRUMENT SERIAL NUMBER: 737374 (1)
    ARE YOU ADDING '737374' AS A NEW COLLECTION INSTRUMENT (THE 10TH)? Y (YES)
SERIAL NUMBER: 737374 // (2)
INSTRUMENT CODE: S-1 (2)
TYPE: ARI??
    Enter the COLLECTION INSTRUMENT TYPE which describes this instrument
 ANSWER WITH COLLECTION INST TYPE NAME (3)
TYPE: AIR
    1   AIR SAMPLING PUMP
    2   AIR SAMPLING PUMP (HF)
    3   AIR SAMPLING PUMP (LF)
CHOOSE 1-3: 1
MANUFACTURER: MSA
MODEL NUMBER: S-101
LOCAL STORAGE LOCATION: OSH LAB (4)
METHOD OF CALIBRATION: BUBBLE METER
USUAL CALIBRATION AGENCY: NAVY LAB - SAN DIEGO (5) (5)
USUAL COST: 14.00 (5)
TURNAROUND TIME IN DAYS: 16 (5)
USUAL POINT OF CONTACT: JIM BEAN (5)
USUAL CONTACT PHONE 1: AV 676-0909 (5)
USUAL CONTACT PHONE 2: _ (5) (5)
NOW DESCRIBE THE LAST CALIBRATION FOR THIS INSTRUMENT (6)
Select CALIBRATION DATE: 11/85   NOV 1985
    ARE YOU ADDING A NEW CALIBRATION DATE (THE 1ST FOR THIS COLLECTION INSTRUMENT)? Y
    (YES)
    CALIBRATION DATE: NOV 1985//_
    CALIBRATION AGENCY: NAVY LAB - SAN DIEGO
    CALIBRATOR NAME: HELEN DUGAN
    ACTUAL COST: 14.00
    DATE SENT: _
    DATE RECEIVED: _
NEXT CALIBRATION DATE: 11/86   (NOV 1986) (7)

Select COLLECTION INSTRUMENT SERIAL NUMBER: _

FIGURE 13-1

ENTER/EDIT COLLECTION INSTRUMENT

13-2

1. The ID field of the file is the Serial Number (free text). In the example we have entered the serial number of the instrument that we wished to add to the file.

2. The Instrument Code field is a nickname field which each instrument is assigned. The local organization may not use duplicate codes for different instruments. The purpose of this field is to give the instrument a name that is simple to enter on a form and also into the computer, and which will uniquely identify the collection instrument.

3. The Collection Instrument Type field is a pointer to the Collection Instrument Type file. You may add new entries to the file as you enter data into the Collection Instrument file.

4. The Local Storage Location is a pointer field to the Local Storage Location file. This file may be added to at the time you are doing entry of a new instrument.

5. The following several fields describe the usual calibration service. These fields need not be entered unless you are going to use the system to track calibrations on this instrument. By filling in these fields, you are setting up some information that will help you when you get ready to send the instrument out for calibration, since these data will be used at that time as default values. You only need to enter the information you know. None of these fields is required. With the exception of the usual calibration agency field, the fields are free text or simple numeric.

6. The usual calibration agency is the name of the agency which is usually responsible for performing the calibration of the instrument. This is a controlled vocabulary which you may add to as you enter collection instruments. For this reason you may also use a partial entry to identify the correct agency if it is already on file.

7. Only fill in this field if you are going to track calibration of this instrument by the system. The next several fields allow you to describe the last time the instrument was calibrated. You do not need to describe the last calibration if you do not know the information asked. Notice that you do not need to know the exact day that the calibration was done.

8. The Next Calibration Date field is the means by which the system will know when to remind you to get the instrument calibrated. You should only fill in this field if you want to be reminded. You will find that to use a month/year type of date in this field will give you sufficient control of your reminders. You may instead enter a complete date if you wish.

13.5 Record/Edit Calibration for Returned Instrument

After an instrument is calibrated, you will want to enter the record of that calibration in the file. To do this you use the Record/Edit Calibration for Returned Instrument. An example of the dialog between the user and the system for one of these transaction is shown in Figure 13-2. This example shows us recording the calibration on a specific air sampling pump that had been sent out to the Navy Calibration Lab in San Diego. Notes explaining the interaction follow Figure 13-2.

13.6 Collection Instrument Reports

The sort/selection criteria for the Collection Instrument Report Options are shown in Table 13-1.

```
Select COLLECTION INSTRUMENT SERIAL NUMBER: 8-1  737374        8-1   NSA  AIR SAMPLING PUMP
        ...OK? YES//_ (YES)
THIS INSTRUMENT WAS SENT OUT AS FOLLOWS:        (1)

DATE SENT: OCT  9, 1986      DATE EXPECTED: OCT 23, 1986

  AGENCY SENT TO: NAVY LAB - SAN DIEGO       CONTACT PERSON: JIM BEAM

  TELEPHONE NUMBER: AV 676-0909

Select CALIBRATION DATE: 10/20    OCT 20, 1986   (2)
   ARE YOU ADDING A NEW CALIBRATION DATE (THE 2ND FOR THIS COLLECTION INSTRUMENT)? Y
   (YES)
CALIBRATION DATE: OCT 20,1986//_
CALIBRATION AGENCY: NAVY LAB - SAN DIEGO//_  (3) (3)
DATE SENT: OCT 9,1986//_  (OCT 9, 1986)
CALIBRATOR NAME: HARRY FELLOW
ACTUAL COST: 34.20
DATE RECEIVED: T//_ 10/24  (OCT 24, 1986) (4)
NEXT CALIBRATION DATE: NOV 1986//_ 10/87  (OCT 1987) (5)
USUAL CALIBRATION AGENCY: NAVY LAB - SAN DIEGO
        //_                              (6)
USUAL COST: 14.00//_ 30.00  (6)
TURNAROUND TIME IN DAYS: 16//_  (6)
USUAL POINT OF CONTACT: JIM BEAM//_  (6)
USUAL CONTACT PHONE 1: AV 676-0909//_   (6)
USUAL CONTACT PHONE 2:_              (6)
LOCAL STORAGE LOCATION: OSH LAB//_    (6)

Select COLLECTION INSTRUMENT SERIAL NUMBER: _
```

FIGURE 13-2

RECORD/EDIT CALIBRATION FOR RETURNED INSTRUMENT

13-n

1. Once we have selected the instrument, the system shows us the information we entered when we sent the instrument out to be calibrated. If we had not entered anything when we sent it out, there would not be any display.

2. The Calibration Date is a multiple date field. You may not enter a calibration date that precedes the previous calibration date on file, nor may you enter a date that is before the date on which the instrument was sent out.

3. Notice that since we had filed the Send Out transaction, the system already knows what date the instrument was sent and what agency performed the calibration.

4. The date received cannot be before the date sent out or the calibration date.

5. If you want to have the system remind you of when to send the instrument for calibration again, you must enter a next calibration date. It is preferable to use an inexact date (month/year only) for this field so that your reports will be easier to read.

6. Finally, you are given an opportunity to change the data in the fields which describes the usual calibration agency, contacts, costs, and turnaround time. This data is purely for your information, but you should review it occasionally to ensure it still reflects reality.

TABLE 13-1
COLLECTION INSTRUMENT REPORT OPTIONS

Report Option   Sort/Selection Criteria

List Equipment Inventory   Collection Instrument Type
                                           Manufacturer
                                               Instrument Code

List of Instruments Due for   Next Calibration Date
    Calibration   Local Storage Location

Inquire on Collection Instrument   1. Serial Number
                                       2. Instrument Code
                                       3. Collection Instrument
                                          Type

14.0 SUPPORT FILES MAINTENANCE PROCESSES

14.1 Introduction to Support Files Maintenance Processes

Various files are used in the EE module to support other processing.
There are two of these files that are discussed in detail in this section:
the Exposure Notice Form Letter File and the Product File. Another type of
file is the controlled vocabulary file. In the EE module, extensive use is
made of vocabularies, many of which are used in other modules of the system
as well, such as, Operation, Location, Stressor. There are a few
vocabularies that are only used by the EE module. The options to print these
vocabularies are discussed in Section 14.5.

14.2 Create Exposure Notice Form Letter

An Exposure Notice Form Letter file entry is composed of four fields as
follows:

o Code/Number--The identifier of the letter entry (the .01 field of the
   file)

o Title--The formal title of the letter

o Form Paper Type--The identification of any special forms required
   when printing the letter (at present, this field is not used)

o Text--The word processing field in which the text of the letter is
   contained

Setting up a new Exposure Notice Form Letter is a straightforward
process. The only complexity occurs in the entry of the Text field. The Text
field contains all boilerplate text that is to appear on the form. It also
uses FileMan "windows" to control formatting and to indicate which fields
from the Over MSAL Results file are to be embedded in the text. You should
refer to the FileMan documentation for a complete discussion of the use of
"windows" within word processing fields.

The only file that is used with the Exposure Notice Form Letter is the
Over MSAL Results file. Table 14-1 shows the data dictionary for this file.
Any one of the fields in the file may be used in a FileMan "window" when
creating a form letter. An example of the Text field for a form letter
appears in Figure 14-1.

TABLE 14-1

DATA DICTIONARY OF OVER MSAL RESULTS FILE

DATA DICTIONARY 01137 -- OVER MSAL RESULTS FILE   UCI: MBC0000MA07IEDWEL3 MITRE   10/21/86 PAGE 1

Field	Number	Type	Description
NAME	1137.01	FREE TEXT	ANSWER MUST BE 3-10 CHARACTERS IN LENGTH
SURVEY/BOUNDARY NUMBER	1137.1	FREE TEXT	ANSWER MUST BE 3-20 CHARACTERS IN LENGTH
DOCUMENT NUMBER	1137.2	FREE TEXT	ANSWER MUST BE 5 CHARACTERS IN LENGTH
PAGE	1137.3	NUMBER	BETWEEN 1 AND 4000
DATE SAMPLED	1137.4	DATE	
LOC	1137.5	POINTER TO LOCATION FILE (01073)	
SURVEYED OPERATION	1137.5.5	POINTER TO OPERATION FILE (01002)	
STRESSOR	1137.6	POINTER TO STRESSOR FILE (01003)	
RESULT TYPE	1137.7	SET ('T' FOR TWA ('B' FOR STEL ('C' FOR CEILING ('0' FOR OTHER ('P' FOR PEAK	
RESULT	1137.8	NUMBER	BETWEEN .0001 AND 159999
ACTUAL EXPOSURE	1137.8.3	COMPUTED -- 0X1((RESPIRATOR(PROTECTION FACTOR)>(RESULT//(RESPIRATOR(PROTECTION FACTOR)),1)RESULT)	
UNITS	1137.9	POINTER TO SAMPLE UNITS FILE (01101)	
DATE ENTERED	1137.10	DATE	
DATE COMPILED	1137.11	DATE	
AGENCY	1137.12	POINTER TO AGENCY UNIT FILE (01074)	
FORM LETTER CODE	1137.13	FREE TEXT	ANSWER MUST BE 3-10 CHARACTERS IN LENGTH
PRINT DATE	1137.14	DATE	
ANNOTATION	1137.15	1137.01 WORD-PROCESSING	
EMPLOYEE	1137.20	POINTER TO EMPLOYEE FILE (01000)	
RESPIRATOR	1137.21	POINTER TO RESPIRATORS FILE (01105)	
OPERATION	1137.22	POINTER TO OPERATION FILE (01002)	
SAMPLED/IN AREA	1137.24	SET ('B' FOR SAMPLED ('I' FOR IN AREA	
NAVY LIMIT	1137.30	NUMBER	BETWEEN .0001 AND 159999
PEL LIMIT	1137.31	NUMBER	BETWEEN .0001 AND 159999
TLV LIMIT	1137.32	NUMBER	BETWEEN .0001 AND 159999
OTHER LIMIT	1137.33	NUMBER	BETWEEN .0001 AND 159999
RSAL	1137.34	NUMBER	BETWEEN .0001 AND 159999

TABLE 14-1

DATA DICTIONARY OF OVER MSAL RESULTS FILE
(Concluded)

DATA DICTIONARY 01137 -- OVER MSAL RESULTS FILE   UCI; MSC0000DNA?](DEVEL) MITRE   10/21/86   PAGE 2

OVER MSAL	1137.36	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVER NAVY	1137.37	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVER PEL	1137.38	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVER TLV	1137.39	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVER OTHER	1137.40	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVER LIMIT	1137.41	FREE TEXT	ANSWER MUST BE 1-3 CHARACTERS IN LENGTH
OVEREXPOSURE AT ENTRY	1137.42	SET : '0' FOR NOT OVER EXPOSED : '1' FOR OVEREXPOSED	

1--3

'200E' IN EXPOSURE NOTICES FILE:TEXT

```
1   |PAGESTART(2)||NOWRAP|
2   $$$$$ NOTICE $$$$$ This information is subject to the provisions of the
3                     Privacy Act of 1974 $$$$$$$$$$$$$$$$$$
4                                              |DATE(TODAY)|
5   |BLANK(1)|
6   AGENCY:|EMPLOYEE:AGENCY|      SHOP:|EMPLOYEE:AGENCY UNIT|
7   |BLANK(2)|
8       OVEREXPOSURE NOTICE
9
10
11  The following employee was |SAMPLED/IN AREA| on |DATE SAMPLED| when the
12  following overexposure reading was taken by Industrial Hygienist.
13      |EMPLOYEE|                    SSN:|EMPLOYEE:SSN|
14                                    BADGE:|EMPLOYEE:BADGE CHECK NUMBER|
15  |BLANK(2)|
16  STRESSOR                          RESULT     UNITS       TYPE
17  |BLANK(1)|
18  |STRESSOR|                        |RESULT|   |UNITS|     |RESULT TYPE|
19  |BLANK(2)||WRAP|
20  The employee was using the following respiratory protection at the time:
21  |RESPIRATOR:DESCRIPTION|,
22  and was engaged in a(n) |OPERATION:FULL NAME| operation.
23  |BLANK(2)|
24  This employee is advised to contact his/her supervisor or Code 106 of this
25  facility if he has questions concerning exposure to this substance.  The
26  appropriate medical intervention is being arranged.
27  |BLANK(1)|
28  The protection factor for the respirator in use is |RESPIRATOR:PROTECTION FACTOR|
29  therefore the actual Exposure was |ACTUAL EXPOSURE| |UNITS|.
```

FIGURE 14-1

EXAMPLE OF FORM LETTER TEXT FIELD

14.3 Set Up Material Product File

The Products file is created in each system site to identify the materials in use in the facility and their stressor components. In creating the stressor list for a product, the IH may refer to the HMIS data on file or on microfiche as well as any other available references. A Product file entry should be created for each material used.

The reason it was decided to design the EE module around a separate file of products rather than the HMIS file is that the HMIS file is very rigorous in its breakdown of materials. A separate record is created for each manufacturer's version of a material, and for each "part" of a material in cases of some compound materials. Further, the HMIS record for a material may not be available on the system in a timely enough fashion to be the means by which all stressors are included in the walkthrough data automatically by the EE module.

Because the Products file is created at each system site, the contents of the file can be tailored to the specific needs of the local Code 106 office. For example, suppose a product used in an operation can be purchased from several different manufacturers and each product has different stressor components then, a Product file entry could be created to describe a general case or a worst case set of stressors since, in fact, the worker may be exposed to the stressor components of any of the specific products. How to define a material product is a decision that will be made at each system site.

Product file entries are linked to the HMIS records on file in your system. There is no limit to the number of HMIS records to which a Product entry may be linked. Therefore, your system retains the knowledge of the specific HMIS materials covered by each Product entry without having to require that the products be as rigorously defined as materials are in HMIS.

This file is maintained in each shipyard by the local personnel. An example of the dialog between the user and the system when creating an entry for "Photo Chemicals" in the Product file is shown in Figure 14-2, with appropriate commentary in the Notes following.

14.4 List Material Product File

The sort/search criteria for the listing of the Product file is limited to the trade name. For a discussion of how to use the sort/search criteria to limit the contents of a report, see the Primer, Section 9.2.

```
Select PRODUCT TRADE NAME: PHOTO CHEMICALS    (1)
    ARE YOU ADDING 'PHOTO CHEMICALS' AS A NEW PRODUCT (THE 29TH)? Y  (YES)
TRADE NAME: PHOTO CHEMICALS//_
Select SYNONYM: KODAK CHEMICALS KIT   (2)
    ARE YOU ADDING 'KODAK CHEMICALS KIT' AS A NEW SYNONYM (THE 1ST FOR THIS PRODUCT)? Y
    (YES)
Select SYNONYM: _
Select STRESSOR: POTASS    (3)
    1    POTASSIUM BROMIDE
    2    POTASSIUM HYDROXIDE
    3    POTASSIUM NITRATE
CHOOSE 1-3: 2
    ARE YOU ADDING A NEW STRESSOR (THE 1ST FOR THIS PRODUCT)? Y  (YES)
Select STRESSOR: SULFITE  SODIUM SULFITE                              (3)
    ...OK? YES// N  (NO) ??
Select STRESSOR: HYDROQUINONE                                        (3)
    ...OK? YES//_  (YES)
    ARE YOU ADDING A NEW STRESSOR (THE 2ND FOR THIS PRODUCT)? Y  (YES)
Select STRESSOR: DIETHYL                                              (3)
    1    DIETHYLENE TRIAMINE
    2    DIETHYL ETHER  ETHYL ETHER
    3    DIETHYLENE DIOXIDE  DIOXANE
    4    DIETHYL MALATHION
    5    DIETHYL PARATHION
TYPE '^' TO STOP, OR
CHOOSE 1-5: _
    6    DIETHYLETHER  DICHLOROETHYL ETHER
CHOOSE 1-6:_ ??
Select STRESSOR: GLYCOL                                               (3)
    1    GLYCOL ETHER
    2    GLYCOLS
    3    GLYCOL DICHLORIDE  ETHYLENE DICHLORIDE
    4    GLYCOL  ETHYLENE GLYCOL MONOBUTYL ETHER
    5    GLYCOL .ETHYLENE GLYCOL DINITRATE
CHOOSE 1-5:_ ??  .
Select STRESSOR: _
```

FIGURE 14-2

SETUP MATERIAL PRODUCT FILE

Use one of the following searches to set HMIS record:

MATERIAL NAME
STOCK NUMBER
NIIN NUMBER
CHEMICAL NAME
MANUFACTURER
DISTRIBUTOR
SPECIFICATION

SEARCH CRITERIA: MATERIAL NAME ④
ENTER MATERIAL NAME: PHOTOGRAPHIC CHEM.KIT. 675000D000009   675000D000009 ⑤

          139 4832,RF X-OMAT D   EASTMAN KODAK COMPAN

STOCK NUMBER: 675000D000009
MATERIAL NAME: 139 4832,RF X-OMAT DEVLPR REPLNSHR,PART A
MANUFACTURER: EASTMAN KODAK COMPANY
DISTRIBUTOR:
CHEMICAL NAME: N/A-AQUEOUS SOLUTION
SPECIFICATION:
INGREDIENTS: POTASSIUM HYDROXIDE;CAS #1310-58-3;% WT RANGE:5-10%
               POTASSIUM SULFITE;CAS #10117-38-1; % WT RANGE:10-15%
               HYDROQUINONE;CAS #123-31-9; % WT RANGE 5-10%
               DIETHYLENE GLYCOL;CAS #111-46-6; WT RANGE 1-5%
               WATER;CAS #7732-18-5; % WT RANGE:55-60%

Is this the correct material? NO//   Y
Select PRODUCT TRADE NAME: _

FIGURE 14-2

SETUP MATERIAL PRODUCT FILE
(Concluded)

NOTES ON SETUP MATERIALS FILE INPUT SEQUENCE

1. The Product Trade Name is the ID field of the Product File. This is the name that will appear on any reports that show the material's name. For a discussion of how to enter new entries to a file, see the Primer, Section 8.2.

2. The Synonym field is a free text multiple. You may enter any number of Synonyms for a material, but a synonym may not duplicate a name (Trade Name or Synonym) already on file.

3. The Stressor field is a multiple pointer to the Stressor file (Primer, Section 7.5).

4. The system will ask you "SEARCH CRITERIA:" when getting ready to let you enter an HMIS Material record. The system will ask you which "search criteria" you wish to use when you identify the HMIS Material record. You must select one of the choices shown to you by entering enough of the field name to identify your choice uniquely.

5. The linkage to the HMIS Materials File is a pointer. You are asked to do a lookup on the Materials File using the key field you have chosen for search criteria. In our example we entered the name for the Materials record we wished to link to this entry of the Product File.

14.5 List Reference Files

The reference files that are specifically related to the EE module are set up as part of the System Manager's function. The module user may print the contents of these files by using the list options. The reports printed by these list options contain the entire file contents, and there are no prompts to respond to in asking for the list. The options available are the following:

o Personal Protective Equipment file

o Respiratory Protection file

o Frequency of Operations file

o Laboratory file

o Collection Instrument Type file.

14-9

APPENDIX A

EXAMPLES OF DATA INPUT FORMS

DATA INPUT FORMS

1. INDUSTRIAL HYCIENE SURVEY COVER SHEET

2. NOISE SURVEY FORM

3. AIAR SAMPLE FORM

4. DIRECT READING SAMPLING SHEET

5. HEAT STRESS SAMPLING FORM

6. MATERIAL SURVEY FORM

7. VENTILATION SURVEY FORM

8. WALKTHROUGH SURVEY COVER SHEET

9. WALKTHROUGH SURVEY FORM

10. BULK SAMPLE FORM

11. WIPE SAMPLE FORM

12. BOUNDARY ACCESS LOG

13. SURVEY ACTION FORM

INDUSTRIAL HYGIENE SURVEY COVER SHEET
PTSMH-NMCL-6260/1 (NEW 11-86)

PAGE_____ OF _____

SURVEY/BOUNDARY #

CONTROL #

ACTIVITY/COMMAND:

TYPE OF SURVEY:

_____ 1. BASELINE _____ 2. INVESTIGATION

_____ 3. ROUTINE _____ 4. OTHER (SPECIFY) _____

_____ 5. FOLLOW-UP _____

DATE _____

INVESTIGATOR _____ AGENCY _____

ASSISTANT _____ AGENCY _____

TELEPHONE # _____

SITE	LOCATION	SUBLOCATION	AREA

OPERATION _____ SHOP #: _____ SHOP TEL#: _____ SUPERVISOR _____

SUPPORT SHOPS _____ # OF EMPLOYEES INVOLVED _____ MALES _____ FEMALES _____

FREQUENCY OF	1. DAILY	2. 2-3 TIMES/WEEK	3. WEEKLY	4. 2-3 TIMES/MONT
OPERATION:	5. MONTHLY	6. 1-3 TIMES/YEAR	7. YEARLY	8. SPECIAL OPERAT
DURATION:	1. LESS THAN 1 HR	2. 1-4 HRS	3. 5-8 HR	4. GREATER THAN 8 HRS

WEATHER CONDITIONS (TEMP. ETC.) _____

ENGINEERING CONTROLS IN USE	ADEQUATE ?	COMMENT
	____YES ____NO	
	____YES ____NO	
	____YES ____NO	
	____YES ____NO	

SURVEY ACTIONS   FOLLOW-UP DATE

1. _____

2. _____

3. _____

4. _____

5. _____

SURVEY INCLUDES: ☐ AIR SAMPLING   ☐ NOISE   ☐ VENTILATION   ☐ WALKTHROUGH

☐ OTHER

REVIEWED BY:	DATE:

NOISE SURVEY FORM
NMCL-PTSMH-6260/2 (NEW 12-96)

SURVEY/BOUNDARY #		CONTROL #

TYPE OF SAMPLE (PER/GA)	PAGE # _____ OF _____

COLLECTION INST 1	COLLECTION INST 2

EQUIPMENT LABELED	[ ] YES	[ ] NO	[ ] N/A	AREA NOISE POSTED	[ ] YES	[ ] NO	[ ] N/A

SAMPLING STRATEGY

( ) (1) FULL PERIOD, SINGLE   ( ) (2) FULL PERIOD, CONSECUTIVE

( ) (3) PARTIAL PERIOD, SINGLE   ( ) (4) PARTIAL PERIOD, CONSECUTIVE

( ) (5) SINGLE GRAB   ( ) (6) MULTIPLE GRAB

( ) (7) CEILING   ( ) (8) OTHER _____

EMPLOYEE NAME		BADGE #	SSN

AUDITORY PROTECTION CODE	DESCRIPTION

ADEQ (Y/N)	COMMENTS:

DOSIMETER SAMPLING DATA

TIME ON	TIME OFF	TIME ON	TIME OFF	TIME ON	TIME OFF	TOTAL TIME	LEQ DBA	LEQ PEAK	PEAK EXCEED (Y/N)	% EXPOSURE

TYPE OF NOISE: ( ) STEADY   ( ) INTERMITTENT   ( ) IMPACT/IMPULSE

WIND SCREEN: ( ) USED   ( ) NOT USED

MEASUREMENTS OBTAINED: ( ) INDOORS   ( ) OUTDOORS

SOUND LEVEL METER SAMPLING DATA

TIME OF DAY	MEASUREMENT	UNITS DBA/DBC	METER RESPONSE	WORK PRACTICES

NOISE SOURCE

NOISE RADIUS

OTHER PERSONNEL REPRESENTED BY SAMPLING

NAME	EMPLOYEE ID	OPERATION	PPE	COMMENTS

CALIBRATION INFORMATION

DOSIMETER

PRE CALIBRATION   POST CALIBRATION

DATE _____ BATTERY CHECK _____   DATE _____ BATTERY CHECK _____ ..

READOUT _____   READOUT _____

CALIBRATION NAME _____ INIT _____   CALIBRATION NAME _____ INIT _____

SOUND LEVEL METER			PRE CAL		POST CAL	
FREQUENCY	ALLOWABLE RANGE		DATE _____ BATT ( )		DATE _____ BATT (	
	DBA	DBC	DBA	DBC	DBA	DBC
125 HZ						
250 HZ						
500 HZ						
1000 HZ						
2000 HZ						
			CALIBRATOR		CALIBRATOR	

DIAGRAM

CALCULATIONS

AIR SAMPLE FORM
NMCL-PTSMH-6260/3 (NEW 12-86)

SURVEY/BOUNDARY #		CONTROL #

TYPE OF SAMPLE (PER/GA)	PAGE # _____ OF _____

COLLECTION INST 1	INST 2

SAMPLING STRATEGY (CIRCLE ONE)

(1) FULL PERIOD, SINGLE   (2) FULL PERIOD, CONSECUTIVE

(3) PARTIAL PERIOD, SINGLE   (4) PARTIAL PERIOD, CONSECUTIVE

(5) SINGLE GRAB   (6) MULTIPLE GRAB

(7) CEILING   (8) OTHER _____

EMPLOYEE NAME	BADGE #	SSN #

RESPIRATOR CODE	RESPIRATOR DESCRIPTION

PPE	CODE	ADEQ (Y/N)	COMMENTS
AUDITORY			
EYE/FACE			
HAND			
FOOT			
CLOTHING			
OTHER			

SAMPLE INFORMATION

SAMPLE #					
LAB #					
MEDIA					
SIZE					
LOT #					
TIME OFF (STROKE)					
TIME ON (STROKE)					
SAMPLE TIME					
FLOW RATE					
SAMPLE VOLUME					

ANALYTICAL METHOD AND LAB
ANALYTICAL RESULTS

SAMPLING RESULTS	(TWA, CEIL, STEL)	RESULTS	UNITS	STANDARD	SOURCE

OTHER PERSONNEL REPRESENTED BY SAMPLING

EMPLOYEE NAME	BADGE	SSN	OPERATION CODE	RESP CODE	PPE CODE

CALCULATIONS REVIEWED BY _____

PUMP CALIBRATION DATA

PUMP MFG	PUMP CODE	PRE 1 2 3	AVG FLOW RATE	POST CAL	AVG FLOW RATE	CALIBRATE METHOD	CAL'D BY	DATE

COMMENTS: _____

_____

_____

_____

_____

DIAGRAM

CALCULATIONS

DIRECT READING SAMPLING SHEET

NMCL-PTSMH-6260/4 (NEW 12-36)

SURVEY/BOUNDARY #		CONTROL #	
			PAGE #

TYPE OF SAMPLE (PER/GA)

SAMPLING STRATEGY (CIRCLE ONE)

COLLECTION INSTRUMENTS

(1) FULL PERIOD SING	(2) FULL PERIOD CONSEC SAMP
(3) PARTIAL PERIOD CON	(4) MULTIPLE GRAB SAMPLE
(5) SINGLE GRAB SAMPLE	(6) CEILING STD.
(7) PARTIAL PERIOD SING	(8) OTHER

1 _____

2 _____

3 _____

EMPLOYEE NAME		BADGE	SSN

RESPIRATOR CODE	DESCRIPTION

PPE	CODES	ADEQUATE?	COMMENTS
AUDITORY			
EYE/FACE			
HAND			
FOOT			
CLOTHING			
OTHER			

SAMPLE TUBE ID _____

SAMPLE # _____

LAB # _____

STROKES _____

TIME ON _____

I/O BOUNDARY _____

STRESSOR	TWA/CEIL/STEL/OTHER	RESULTS	UNITS	STD	SOURCE

OTHER EMPLOYEES REPRESENTED BY SAMPLING

EMPLOYEE NAME	BADGE	SSN	OPERATION	RESP CODE	PPE

CALIBRATION

PRE CAL DATE	POST CAL DATE	SPANS 1 2 3	CAL METHOD	LEAK TEST OK (Y/N)	CALIBRAT INITIALS

REVIEWED BY: _____

HEAT STRESS SAMPLING FORM
NMCL-PTSMM-6260/6 (NEW 12-86)

SURVEY/BOUNDARY #	CONTROL #

COLLECTION INSTRUMENT 1	INSTRUMENT 2

COMMENTS:_____

PPE	CODE	ADEQ (Y/N)	COMMENTS
AUDITORY			
EYE/FACE			
HAND			
FOOT			
CLOTHING			
OTHER			

RESULTS-INDICATE UNITS

PARAMETER	1	2	3	4	5	6	7	8	9	10	AVG
DRY BULB											
WET BULB											
% HUMIDITY											
GLOBE TEMP											
WBGT											
IN/OUTDOORS (I/O)											
RADIANT LOAD (Y/N)											

CONTROL MEASURES

WATER AVAIL (Y/N)											
WORK/REST TIME											
OTHER											

OTHER EMPLOYEES

NAME	BADGE	SSN	OPERATION CODE	RESPIR CODE	PPE CODE

DIAGRAM

DATA REVIEWED BY:

LOCATION: SITE/LOCATION/SUBLOCATION/AREA

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

MATERIAL NAME	QUANTITY	UNITS
STRESSOR	STRESSOR	

PERSON PERFORMING SURVEY	BADGE	DATE

VENTILATION SURVEY FORM
NMCL-PTSMH-6260/5 (NEW 12-86)

SURVEY/BOUNDARY #		CONTROL #

DATE:

PAGE _____ OF _____

INVESTIGATOR	AGENCY

ASSISTED BY	AGENCY

SITE	LOCATION

SUBLOCATION	AREA

OPERATION CODE	OPERATION DESCRIPTION

STRESSORS INVOLVED

SHOP	SHOP TEL #	SUPERVISOR

COLLECTION INSTRUMENT 1	INSTRUMENT 2

SURVEY COMMENTS:_____

_____

VENT SYSTEM ID	DESCRIPTION

VENT SYSTEM: ☐ PERMANENT   ☐ TEMPORARY

VENT SOURCE ID	DESCRIPTION

VENT SOURCE: ☐ PERMANENT   ☐ TEMPORARY

BLAST GATE/DAMPER POSITION:

☐ 1/4 OPEN   ☐ 1/2 OPEN   ☐ 3/4 OPEN   ☐ FULL OPEN   ☐ NONE

DUCT DIAMETER	FACE/SLOT AREA

MEASUREMENTS

TYPE	DUCT AVG VEL (FPM)	FACE AVG VEL (FPM)	SLOT AVG VEL (FPM)	CAPTURE AVG VEL (FPM)	STATIC PRESSURE AVG VEL (IN. OF H2O)
1					
2					
3					
4					
5					
6					
				< VELOCITY	
				< AVG FLOW RATE	
				< FLOW RATE STD	

SYSTEM STATUS: ☐ SATISFACTORY   ☐ UNSATISFACTORY   ☐ N/A

DIAGRAM:

CALCULATION:

CALCULATIONS REVIEWED BY:

WALKTHROUGH SURVEY COVER SHEET
NMCL-PTSMH-6260/9 (NEW 12-86)

WALKTHROUGH SURVEY #

TYPE OF WALKTHROUGH: ☐ (1) WALKTHROUGH

☐ (2) MATERIAL INVENTORY

☐ (3) OTHER

☐ (1) ROUTINE

☐ (2) SPECIAL REASON

SPECIAL WALKTHROUGH REASON:

DATE STARTING FROM:

DATE ENDING ON:

INVESTIGATOR:	AGENCY:	UIC:
ASSISTANT:	AGENCY:	UIC:

SURVEY COMMENT:

WALKTHROUGH SURVEY FORM
NMCL-PTSMH-6260/13 (NEW 12-96)

LOCATION: SITE/LOCATION/SUBLOCATION/AREA

OPERATION CODE:	OPERATION DESCRIPTION:

SHOP:

FREQUENCY OF OPERATION:
- ☐ (1) DAILY
- ☐ (3) WEEKLY
- ☐ (5) MONTHLY
- ☐ (7) YEARLY

IN AGENCY:
- ☐ (2) 2-3 TIMES/WEEK DURATION:
- ☐ (4) 2-3 TIMES/MONTH
- ☐ (6) 2-3 TIMES/YEAR
- ☐ (3) OTHER _____

- ☐ (1) LESS THAN
- ☐ (2) 1-4 HRS
- ☐ (3) 5-8 HRS
- ☐ (4) GT 8 HRS

NEED TO SAMPLE	☐ YES ☐ NO	EXPOSURE RISK:	(1) NEGLIGIBLE	(2) MARGINAL
			(3) IMMINENT	(4) CRITICAL

NO EXPOSURE RISK REASON:

OPERATION COMMENT: _____

MACHINERY:

	PHYSICAL HAZARD	SOURCE	SIGHT HAZ (Y/N)	COMMENTS
1				
2				
3				

COMMENTS:

ENGINEERING CONTROLS IN USE	ADEQUATE (Y/N)	COMMENTS

COMMENTS:

OTHER CONTROLS IN USE	ADEQUATE (Y/N)	COMMENTS

COMMENTS:

RESP PROT IN USE	ADEQUATE (Y/N)	COMMENTS

COMMENTS:

PPE IN USE	ADEQUATE (Y/N)	COMMENTS

COMMENTS:

LOCATION: SITE/LOCATION/SUBLOCATION/AREA

COMMENTS:

BULK SAMPLE FORM
NMCL-PTSMH-6260/7 (NEW 12-36)

SURVEY/BOUNDARY #	CONTROL #	PAGE #_____

SOURCE OF SAMPLE: _____

_____

_____

CONTAINER LABEL: _____

_____

SAMPLE #: _____

LAB #: _____

STRESSORS	MEASURING AMOUNT/UNIT	AMOUNT/UNIT	AMOUNT/UNIT

IN OR OUT OF BOUNDARY AREA (CIRCLE ONE)　　　☐ IN　　　☐ OUT

TYPE OF LAB ANALYSIS REQUESTED:

NAME OF ANALYTICAL LAB:

INVESTIGATOR'S NAME:

DATE SAMPLED COLLECTED:

WIPE SAMPLE SHEET
NMCL-PTSMH-6260/8 (NEW 12-86)

SURVEY/BOUNDARY #	CONTROL #	
		PAGE # _____

SOURCE OF SAMPLE:

COLLECTION MEDIA:

SAMPLING COMMENTS:

TYPE OF ANALYSIS REQUESTED:

NAME OF ANALYTICAL LAB:

SAMPLE #: _____

LAB #: _____

IN/OUT BOUND _____

WIPE AREA _____

STRESSORS	AMT/UNITS	AMT/UNITS	AMT/UNITS	AMT/UNITS	AMT/UNITS	AMT/UNITS

REVIEWED BY:

BOUNDARY ACCESS LOG
NMCL-PTSMH-6260/12 (NEW 12-86)

BOUNDARY #	LEAD SHOP	LOCATION BLDG/SHIP	SHIFT RECORD DATE	WORK PROCEDURE NUMBER	TYPE OF CONTROL
					☐ ISOLATION ☐ CONTROLLED

SHIFT	SUPERVISOR (PRINT):		RECEIVED CK LIST	ALL PERSONS ENTERING AND EXITING SHALL ENTER FOLLOWING INFORMATION BELOW:
1 ☐ DAY 2 ☐ EVE 3 ☐ NITE	_____		☐ YES ☐ NO	NAME, SSN, CODE/SHOP, DATE TIME IN/OUT, RESPIRATOR CODE, OPER CODE & INITIALS

NAME (LAST NAME INITIALS)	BADGE #/ SSN	CODE/ SHOP	RESP CODE	OPER CODE	TIME IN	TIME OUT	TIME IN	TIME OUT	TIME IN	TIM OU

SUPERVISOR'S SIGNATURE:

NOTE: BEGIN NEW LOG EACH SHIFT, EACH DAY.

SURVEY ACTION FORM

NMCL-PTSMH-6260/13 (NEW 12-86)

SURVEY ACTION #:

WALKTHROUGH/SURVEY #:

LOCATION: OPERATION:

SHOP: IN AGENCY:

INVESTIGATOR:

DESCRIPTION:

FOLLOWUP DATE: COMPLETION DATE:

INDEX